

Executive Registry  
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**General Robert Cutler**

**Hot Springs, Arkansas**

**Dear Bobby:**

I'm delighted to have your letter of the 24th and the hope that you will do something for "Studies in Intelligence." We have an issue which will be passed on by the editorial board on 15 May, or, if this is too soon, the next deadline is the first of August. As far as length is concerned, we suggest to our contributors that it be not more than 5,000 words.

I hope you enjoy your week at Hot Springs. I deeply appreciate your thoughts about Foster and your sympathy.

**Sincerely,**

**Allen W. Dulles**

O/IG/LBKirkpatrick:rm (28 Apr 59)

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**(EXECUTIVE REGISTRY)**



Worthy of Your Trust

## OLD COLONY TRUST COMPANY

ONE FEDERAL STREET, BOSTON 6, MASSACHUSETTS

ROBERT CUTLER  
CHAIRMAN

April 24, 1959

The Honorable Allen W. Dulles  
 Director, Central Intelligence Agency  
 Washington 25, D. C.

Dear Allen:

Your letter of 21 April, 1959 about my writing for "Studies in Intelligence" - your erudite quarterly - on the extent to which intelligence finding help to shape national policy decisions is here.

One would like to ask a few questions - for what issue? what is the deadline? how long? I would try to write some pages on this topic, which is of supreme interest and should be better understood and as to which our views are quite identical.

I'm off to Hot Springs for a recommended week off, after my first seven months back at work. I must say that I never supposed I would be as busy as I now am, ever again. But it seems rather to agree with me, now that I'm better. My principal bother is increasing arthritis in my hands.

You might drop me a line to the [redacted] Hot Springs, so that I can see STAT whether I can fit things in to suit. To please the Commander-in-Chief, I've just made today my 9th speech on a balanced budget, with 3 more scheduled for May.

The news about Foster, however anticipated by one with my hospital background, is hard to bear. The ways of Providence are inscrutable. That my mother at 52, and my great brother, Elliott, at 57, should have to go this way, and leave lesser fry on the stage is hard to grasp. And now Foster, with all he gave and had to give. As I wrote Janet, we must nevertheless praise the Lord (in Cromwell's great phrase) for having given to us all so great a character, integrity, wisdom and application as Foster has shown forth. My heartfelt sympathy, my dear friend, to you.

Sincerely yours

Robert Cutler

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Honorable Robert Cutler,  
 Chairman, Old Colony Trust Co.  
 One Federal Street  
 Boston 6, Massachusetts

Dear Bobby:

As you may know, for several years now we have been printing a professional journal for intelligence personnel, a quarterly called "Studies in Intelligence." Classified "secret," it offers among other advantages a place where thoughtful intelligence professionals can air some of the larger problems that bother them.

One of these problems is the perennial classic, the extent to which intelligence findings help to shape national policy decisions, both spot decisions and longer-range plans. This problem remains a real and troublesome one for intelligence officers, yet one which they cannot themselves discuss either from full knowledge of the facts or with proper detachment from their own interests.

It would be most helpful if you, out of your rich experience and from a position where you have had a chance to reflect on it, could give us for publication in this classified journal your frank appraisal of the impact of intelligence on U.S. policy. Your views of the limitations, essential and fortuitous, and the influence of intelligence on policy would be interesting. Your suggestions to the intelligence community on how it could improve its effectiveness would be of value.

I realize you have many commitments, but thought that you might be interested in writing such an article.

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Sincerely,

SIGNED

*CD*

Allen W. Dulles  
 Director

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✓ card 19 February 1959



Memorable Robert Cutler  
Chairman, Old Colony Trust Company  
One Federal Street  
Boston 6, Massachusetts

Dear Bobby:

It was good of you to send me the article giving your report of the NSC procedure. I note you never forget to give a hand to the share of the Intelligence Community in the Council's work.

I enjoyed my brief visit to Boston and most of all seeing you again.

Sincerely,

SIGNED

Allen W. Dulles

P.S. Foster is doing as well as we could hope, but it will be a tough road.

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Worthy of Your Trust

## OLD COLONY TRUST COMPANY

ONE FEDERAL STREET, BOSTON 6, MASSACHUSETTS

ROBERT CUTLER  
CHAIRMAN

Feb 10/59

Dear Allen

I thought you might like  
to see my attached article on  
the NSC.

Best

Bob

16

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OLD COLONY TRUST COMPANY  
BOSTON 6, MASSACHUSETTS

February 10, 1959

Dear Mr. President:

The Editor of the GENERAL ELECTRIC DEFENSE QUARTERLY asked me to answer, for its fifth issue, some questions relative to the operation of the National Security Council.

In line with what I have understood to be your policy as to such responsible requests, I have sought to make informative and substantive answers to these questions.

Enclosed is a copy of the QUARTERLY, containing my answers on pages 8-15. Although the accompanying photographs make RC look like an "ancient monument," I trust that his text will appear to you more viable.

Sincerely

Robert Cutler

The President  
of the United States  
The White House  
Washington, D. C.

cc: Honorable Allen W. Dulles ✓

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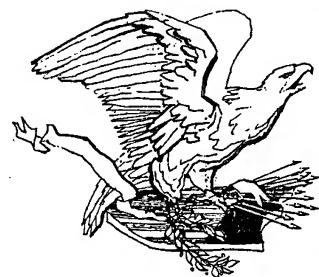
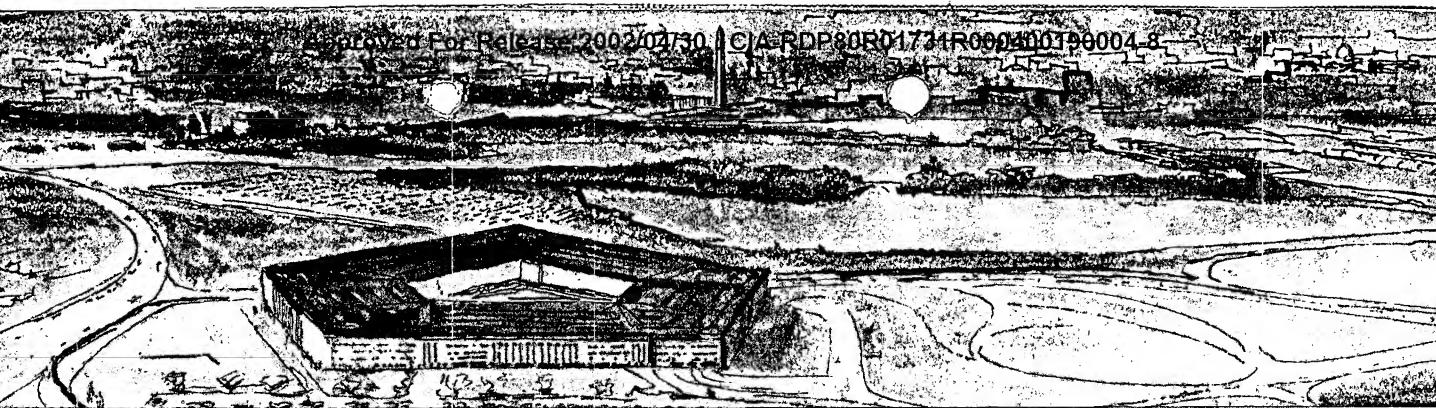
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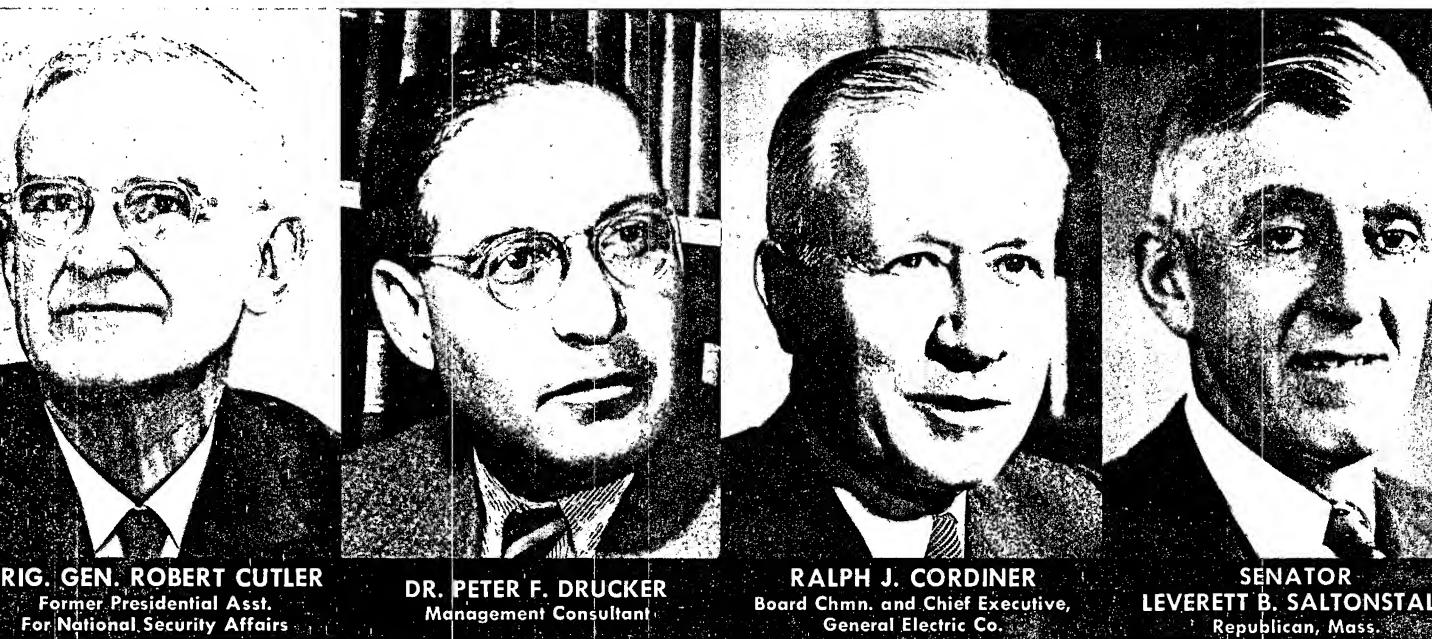
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# The General Electric Defense Quarterly

Volume 2 • Number 1 • January-March 1959



**RIG. GEN. ROBERT CUTLER**  
Former Presidential Asst.  
For National Security Affairs

**DR. PETER F. DRUCKER**  
Management Consultant

**RALPH J. CORDINER**  
Board Chmn. and Chief Executive,  
General Electric Co.

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Republican, Mass.



**SENATOR**  
**JOHN F. KENNEDY**  
Democrat, Mass.

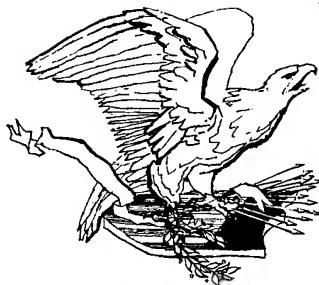
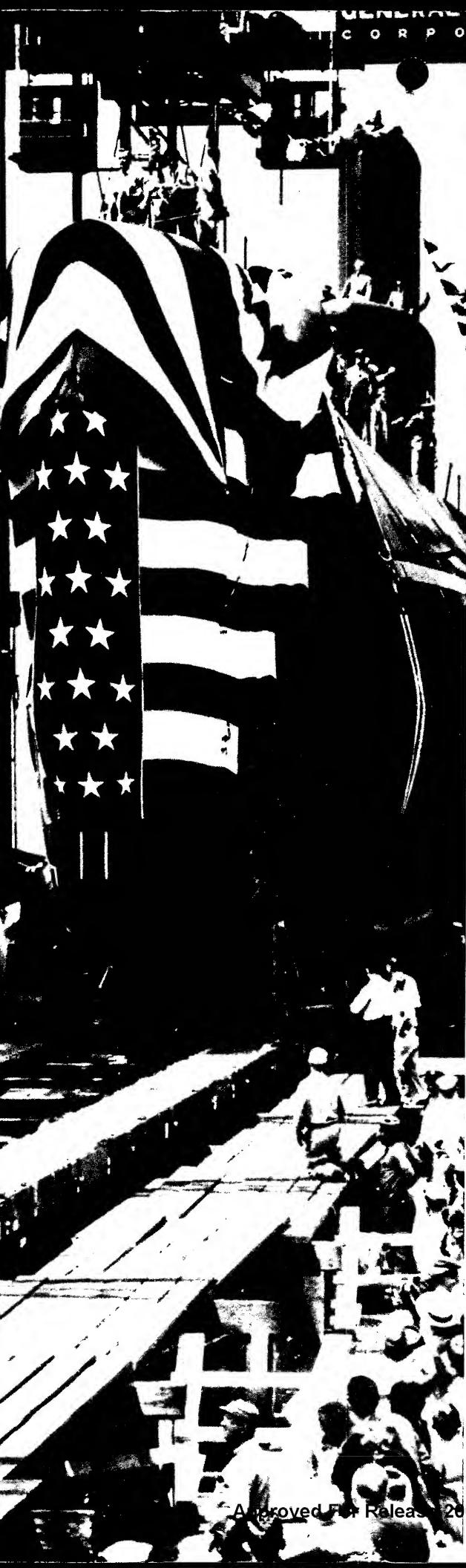
**J. H. KINDELBERGER**  
Board Chmn. and Chief Executive,  
North American Aviation, Inc.

**REAR ADMIRAL**  
**W. F. RABORN, JR., USN**  
Dir., Fleet Ballistic Missile Program

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industry, and the  
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necessity for a businesslike  
approach to defense organizati



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## THE GENERAL ELECTRIC DEFENSE QUARTERLY

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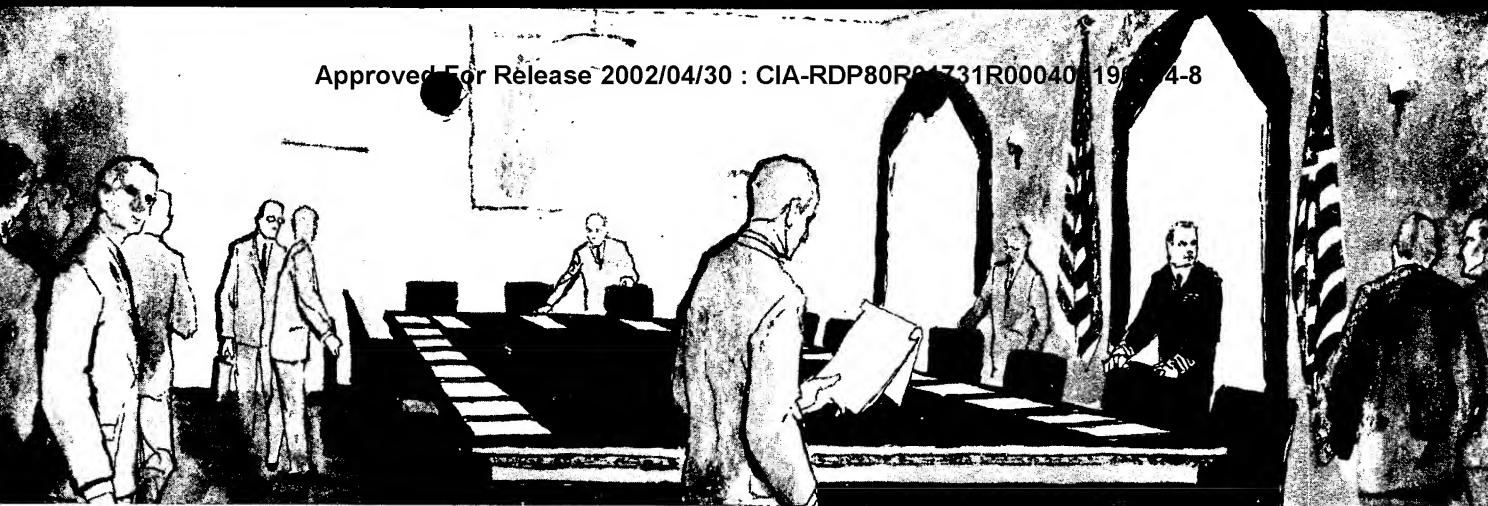
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## Organizing for Defense

What can the individual American, the citizen concerned with national security, do to help the United States organize effectively for defense?

Is he helpless in a power struggle so great that his contributions don't count? Some believe so.

A recent survey sampled the reader response to a magazine message on the technological race between the U. S. and the USSR. Reported the survey: "... a sizeable number of the readers ... apparently feel that the threat of Russian military might is so overwhelming that the individual is powerless to counteract it."

A more positive note was sounded by other readers:

"The United States must bend every effort to exceed Soviet endeavors."

"We must handle Research and Development in a businesslike manner. We are not doing as well as we might in the R&D field. As a citizen, I should recognize and support efforts of R&D."

"If we all join in a cooperative effort to further Research and Development, we can emerge victorious. We as a group must join in a supreme effort to combat this rationally and intelligently."

Certainly the U. S. answer to the massive Communist threat must center on the individual—just as our entire basic philosophy of government is founded on the rights and freedom of the individual—including his ability to design, produce, create, manage within the free-enterprise climate. The question must become: how to organize the literally millions of individual efforts related to defense? to organize them so effectively that U. S. progress will exceed the progress now programmed and predicted by the slave states.

To put in perspective the task of organizing for defense, we have asked a number of authorities to analyze the total subject as well as "side issues" facing the specific individuals: members of Congress, the military, industry, thought leaders, private citizens.

Introducing the discussion is *Dr. Peter Drucker*, eminently qualified on business organization and management. While not concerned with the defense business *per se*, he is recognized for an extremely clear understanding of the long-range

problems to be solved in the effective management of defense.

But no management effort is of value without first defining a national policy to guide our defense strategy, and the starting point for organizing policy is the National Security Council. *General Robert Cutler*, for a number of years the President's Special Assistant for National Security Affairs, analyzes the NSC: why it exists, how it operates, how it can become a more effective organization and instrument for peace in the future.

The role of Congress in helping to implement national policy is paramount, immediate and continuing. Here, legislative responsibilities and needs are examined by the able Senatorial team from Massachusetts—*Leverett B. Saltonstall* and *John F. Kennedy*.

With policy set and machinery established, the job of providing defense tools goes largely to industry. Describing challenges to industry (as well as challenges that apply to organizational efficiency in all phases of our defense efforts) are North American Aviation's *J. H. Kindelberger* and General Electric's *Ralph J. Cordiner*.

Finally, a success story on organizational efficiency: *Rear Admiral W. F. Raborn, Jr.*, presents a progress report on how a fantastically-diverse, high-priority weapon system is being managed.

It is fitting that these authors be drawn from government, industry, the Armed Forces and professional management consultation. For these are the specialized groups which must present their cases to the citizen-taxpayer who is most concerned with national security.

And, in the end, it is the citizen-taxpayer who must evaluate the facts and, through the democratic process, assure our national security. The importance of individual vigilance and concern has been accurately summarized by Jean Jacques Rousseau, who said:

"Good laws lead to the making of better ones; bad ones bring about worse. As soon as any man says of the affairs of State, 'what does it matter to me?' the State may be given up for lost."

In his recent book, AMERICA'S NEXT TWENTY YEARS, Dr. Peter F. Drucker says: "The most important requirement of rapid industrial growth is people." Since he is noted for his work with people as an educator, management consultant and writer, such a comment is not surprising. Dr. Drucker was born in Vienna, Austria and received his LL.D. Degree from the University of Frankfurt in 1931. Prior to coming to the United States in 1937, he was economist for a London banking

house. In this country, Dr. Drucker served as American advisor for British banking firms and as correspondent for several British newspapers. A former professor of philosophy and politics, he has been a leading management consultant to many of America's larger business corporations for 18 years. A broader discussion of the points raised in this article can be found in Dr. Drucker's newest book, THE LANDMARKS OF TOMORROW, which has just been published by Harper's.



## Defense Organization: New Realities and Old Concepts

by Dr. Peter F. Drucker, Management Consultant

- Qualitative change is more important than cost in the relationship between defense needs and the economy.
- Rapid technological advancement has made planned obsolescence a foundation of our defensive strength.
- Our organizational approach must be guided by the fact that defense is now a "normal" rather than an "emergency" business.

A layman who has never designed a jet engine, never re-negotiated a defense contract, never worked on a defense budget, is hardly competent to discuss as difficult and many-sided a subject as *organization* for defense. But organization is, after all, not an end in itself. It is a means to satisfy needs and demands. And I wonder how fully it is realized—by public opinion, by the Congress, by businessmen, or even by the Armed Services—how completely the demands defense organization has to satisfy have changed, and how different they have become from those that had to be met as recently as World War II, or even the Korean War.

Specifically, I wonder whether the changes in three areas are fully understood and whether they have been taken into account in our approach to the organization of defense production.

### Cost vs. Qualitative Change

I. In defense economics, that is in the relationship between defense needs and national economy, we tend to focus on the size of the defense

burden, and it is certainly a staggering one. But even more important than the amount of the bill is the qualitative change in the relationship between defense needs and national economy.

The armies that took the field at the outbreak of World War I in 1914 were the largest and most highly equipped armies the world had ever seen up to that time. But 80% or more of the material equipment of these armies still consisted of standard peace-time goods, produced in ordinary peace-time productive facilities. And most of the rest, while specially produced for military purposes, could be turned out in normal peace-time facilities after a speedy and relatively easy conversion. Very little, in other words, of the defense needs of 1914 required special defense-production facilities equipped to turn out nothing but special-purpose defense goods. By 1941, when we got into World War II, almost one-half of the total material needs of a fighting war consisted of special-purpose equipment. But the bulk of this was still material that could be turned out by diverting and converting ordinary peace-time facilities. Only a very small proportion—though a bigger one than in 1914—required special-purpose facilities, especially built for defense production and usable for nothing else.

### 'Production Miracle' Cannot Be Repeated

Today something like 90% of the material needs of defense consists of special-purpose equipment which cannot be produced except in special facilities, built for that purpose and usable

for very little else. There is no more possibility of conversion. Nor can the "production miracle" of 1942/3 ever be repeated again. Defense production today means production exclusively for defense in exclusive defense facilities. This means that defense today requires a permanent defense economy and a defense economy that is built and maintained in peace-time. And like any economy, this must be a healthy, a thriving and an expanding one, if it is to function at all. At the same time, however, this defense economy is a means to an end of national policy. Care must therefore be taken that it remain subordinate to the needs and objectives of national policy. Above all, we must take care that we do not allow ourselves to make national policy and defense needs subordinate to the needs of the defense economy. I believe, for instance, that it is very questionable policy to encourage the growth of a substantial number of businesses which have no other business than defense production, or that it is good long-range policy to allow the development of "defense production regions" in which defense business is the mainstay of the regional economy. We do not want, in fact, we can hardly afford, a "defense interest"; and yet we have to make sure that the defense economy is a healthy, a thriving and an expanding one.

Here seems to me to lie the first new demand on the organization of defense production.

#### Major Technological Changes

II. A similar major change has occurred in defense technology. Again public discussion seems to see only part of the change. It sees the *new weapons*. But equally important is the fact that the new defense technology is based on the very rapid obsolescence of existing weapons. In fact, we all know today that a new weapon is likely to be obsolete by the time it reaches the production stage. At the very least we know that we are likely to be outstripped technologically unless the next weapon, which will obsolete the new one, is already on the drawing board when the "new weapon" reaches the production stage.

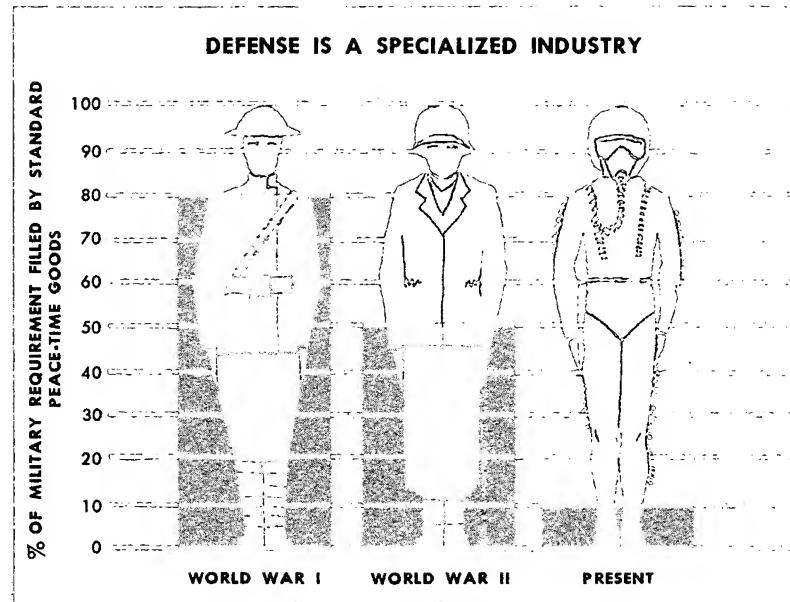
This is perhaps the most radical change, as one illustration will show. All through the 19th century the cavalry was the most highly trained and most "professional" branch of any of the large armies. It was almost exclusively manned by long-serving soldiers, even in the countries of universal military service. The cavalry soldier had three pieces of special cavalry equipment: his horse, his sabre and his carbine. The horse was considered to have the same service life as the individual trooper, that is twelve to fifteen years; and both sabre and carbine were considered to outlive the individual trooper and to serve three or four troopers before being dis-

carded. As for technological changes, they occurred only once every fifty years or so—and then, of course, only in respect to the carbine.

#### Planned Obsolescence Means Strength

Today we obsolete before we produce. And a long-serving soldier is almost certain to have to learn to use new weapons practically every year during his enlistment. In other words, obsolescence, planned, deliberate and speedy obsolescence is the foundation of defense strength today. It is not the capacity to produce weapons that already exist, but the capacity to make us capable of producing weapons that do not yet exist, which is crucial.

One implication of this is that Research and Development rather than Production might be considered the "production area" of a defense economy. R&D might be the area in which defense-competition between powers is actually decided. Production, of course, must remain important since one cannot fight a war with tomorrow's weapons. But production might very well appear to become an auxiliary—at least in the organization of defense production, in its measurements, in its incentives and its rewards. And the area in which we have to mobilize the full strength of a free society and of a free economy might very well be the area of R&D—the area in which there is need for the fullest call for initiative, competition and imagination, and accordingly, the greatest need for incentives, motivations and rewards. Modern defense production—basically unlike that of World War II



## *"Temporary emergency" thinking still...dominate*

—depends less on the productive genius than on the innovating genius of a country.

### **Defense As A Permanent Business**

III. Finally, defense business has become permanent rather than temporary, and "normal" rather than "emergency" business. This may very well be the biggest change from the concept we have been familiar with, the concept which still so largely dominates our thinking, our approach to defense production, and perhaps even its actual organization.

Defense business has become a permanent and normal rather than a "temporary emergency" business not only because of international tensions, not only because we are up against a vigorous, unscrupulous adversary bent on world domination; it has become a permanent and normal business not only because of the changed role of the United States as the only power capable of withstanding the threat of total aggression and subversion. Equally important are the changes in defense economics and defense technology which require permanent diversion in peace time of a large share of the country's productive resources to defense production, and permanent attention, in peace time, to constant defense innovation. In fact, the changes in defense economics and defense technology have been such that only the two "super powers" are at all capable any longer to maintain the kind of defense effort that is needed—and despite its tremendous size and burden, the defense effort in either one of the great powers today may well be below what, in earlier times, would have been considered a minimum defense standard.

### **Implications For Society, Economy**

I am not happy about this; in fact, I know no one who is. The implications of this change are very great indeed. In international affairs they mean that it is quite possible that it is defense technology which is causing the basic international tension rather than that the tension is responsible for our defense efforts. And this would have very serious implications for any attempt toward disarmament, for instance. Equally serious are the implications for domestic society and domestic economy; the constant inflationary pressure is only one. Most ominous,

An "E" pennant goes up—a recognition of the tremendous exertion which American workers poured into war production efforts. An appeal to patriotism was the emotional basis on which the tremendous "temporary" wartime effort hinged.

*most of...our defense organization."*

especially for a free society, is the growing militarization which this constant defense need creates in public and private life throughout the world.

But whether I am happy or not: the fact that defense production is of necessity permanent business and must be considered "normal business" is a fact.

A temporary emergency has its own policies and its own economics, primarily those of emotion. Its effort is based on a sudden exertion rather than on deliberate organization for the long pull. In the case of defense production, this sudden exertion was the appeal to patriotism. A temporary emergency also has its own problems such as the well-publicized one of the danger of the unscrupulous who, knowing full well that they need not worry about standing and reputation in a "market" that won't be there anyhow the day after tomorrow, exploit and profiteer. Less publicized, but perhaps a good deal more important is the problem of the well-intentioned but inexperienced, both among the defense producers and among the procurement agencies in the Armed Forces.

"Temporary emergency" thinking still, it seems to me, dominates most of our defense thinking and our defense organization: the way we make defense budgets and allocate the money; or the way we procure defense. It is

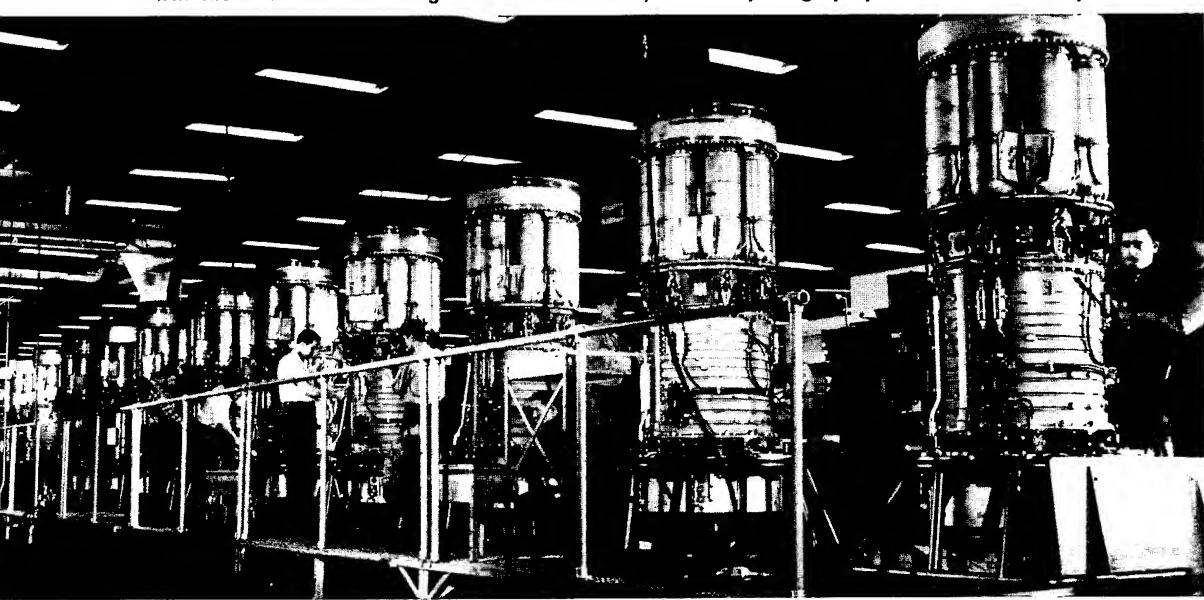
certainly largely responsible for the legal jungle in which defense production and defense procurement find themselves entangled at every step. But it also seems to me that a good many of our businesses, in their approach to defense production, still think in terms of "temporary emergency."

**Special Organization Required**

But defense production as a permanent business requires organization as such. It needs long-range objectives and a basic organization to carry out these objectives. It needs its own relations based on mutual confidence and proven performance. It needs its own resources of people and capital. And as in any permanent business the basic question arises: can the business attract the people and the capital it needs, that is, does it offer enough in the way of opportunities and rewards?

I can only ask questions. What they mean for the organization of defense production I am not competent to discuss. But I am convinced that no organization of defense production will be found adequate unless it is consciously developed to satisfy the new demands which the new realities make on us. And I am not, unfortunately, convinced so far that we have even made the effort to find the organization that will answer these demands.

**Atomic and Defense Systems Group, typifies the vast investment which must be made to satisfy today's highly specialized defense requirements.**





General Cutler with cabinet chair given him by President Eisenhower.

The board room of the Boston Old Colony Trust Company and the meeting room of the National Security Council might not seem to have much in common. But they both have played an important role in the colorful career of General Robert Cutler.

General Cutler graduated from Harvard University and from Harvard Law School. He served in both World Wars, and was appointed to the rank of Brigadier General in 1945. Following diverse assignments with the Army in World War II, and later with Office of the Secretary of War, General Cutler returned to Boston and served as President and Director of the Old Colony Trust Company. In 1953, he was appointed to the post of Administrative Assistant to President Eisenhower. In Washington, he served as Chairman of the National Security Council Planning Board for more than 3½ years and was Special Assistant to President Eisenhower for National Security Affairs.

During his tenure, General Cutler helped to conduct 179 National Security Council meetings (being 48% of all meetings held during the Council's 10½ years of existence) and presided over 504 NSC Planning Board meetings of a total of 903 held during the above-mentioned period.

General Cutler has received the Distinguished Service Medal and the Legion of Merit. He has also been awarded the civilian Medal of Freedom. Recently retiring from his National Security Council posts, he is still associated with the Old Colony Trust Company as its Chairman and Director.

# Organization of the Policy Council

by *Brig. Gen. Robert Cutler*,

*Former Special Assistant  
to the President for  
National Security Affairs*

**How does the National Security Council help the nation plan and organize for defense? Here is an authoritative "inside" view of the Council in its vital role as a policy influencing organization.**

## **Question 1. How does the United States formulate national security policies?**

This question can best be answered by giving some historical background as well as stating current procedures.

Since the Congress enacted the National Security Act in 1947, the principal mechanisms through which national policies have been formulated have been: (1) the Cabinet, for matters not directly and primarily affecting national security such as the Post Office, Interior, Health Education & Welfare, Agriculture, Commerce (except foreign commerce), Justice (except internal security), Civil Service, domestic politics, and (2) the National Security Council, for national security issues. The complexity of modern times often makes it difficult to draw a clear line between the two categories; but in practice a rational accommodation has invariably been worked out between the Secretary of the Cabinet and the Special Assistant for National Security Affairs.

### **A Personal, Advisory Mechanism**

The National Security Council is a personal, advisory mechanism for the President. Its principal statutory function is "to advise the President with respect to the integration of domestic, foreign, and military policies relating to the national security, so as to enable the military services and the other departments and agencies

of the Government to cooperate more effectively in matters involving the national security."

The statute is sufficiently flexible so that each President may use the Council mechanism as he wishes. President Truman and President Eisenhower have used it in quite different ways. During the 5½ years of the Truman Administrations, 128 Council meetings were held. During the first 5¾ years of the Eisenhower Administrations, 253 meetings were held.

The President is Chairman of the Council. In his absence, which has been very rare in President Eisenhower's case, the Vice President presides. Attendance at National Security Council meetings is in part fixed by statute and in part by the direction of the President.

### **Statutory Membership**

The statutory members are the President, Vice President, Secretary of State, Secretary of Defense, and Director of the Office of Civil and Defense Mobilization. President Eisenhower also expects the Secretary of the Treasury and the Director of the Budget to attend all Council meetings as participants. In addition, the Attorney General and the Chairman of the Atomic Energy Commission normally attend. Other officials may be invited to participate for agenda items which concern their particular Government responsibilities.

The Chairman of the Joint Chiefs of Staff and the Director of Central Intelligence regularly sit

at the Council table as statutory advisers on military and intelligence matters. The Special Assistant for National Security Affairs and the Council's Executive Secretary and Deputy Executive Secretary attend in Staff capacities. Thus, about 15 persons are normally seated at the Council table. This figure is augmented from time to time by the presence of the Service Secretaries and the Service Chiefs of Staff, or by experts or non-governmental consultants on particular subjects who appear to state their views and be questioned.

The Assistant to the President, the Director United States Information Agency, the Director International Cooperation Administration, the Special Assistants to the President for Foreign Economic Policy, for Science and Technology, and for Security Operations Coordination, and the White House Staff Secretary usually attend NSC meetings as observers.

#### **A Forum for Vigorous Discussion**

President Eisenhower regards the Council as a corporate body of qualified top-level officials. He seeks advice from members on the basis of their broad personal experience and knowledge. He does not look upon the Council as a group of agency heads presenting "parochial" views. Since the President uses the Council as a forum for vigorous discussion of issues of the gravest national consequence, it is essential to restrict Council attendance.

The priceless ingredient in this Council operation is *integration*. The views of all affected elements in the Executive Branch are sounded out in the formulation of policy recommendations; these views are discussed before and with the President for his final decision. The National Security Act created a *workable mechanism for such integration*.

In order to win victory in World War II, all kinds of integrative mechanisms were developed within and without our Armed Forces. It was their abandonment after the war that led to the creation of the National Security Council. It was soon recognized that the Chief Executive required some mechanism to integrate all responsible views in the policy recommendations submitted to him, and to assure that all pertinent arguments be presented to him and his advisers.

#### **Maximum Aid to President**

Current operation of the Council mechanism is designed to afford maximum help to the President.

To this end, exact written statements and recommendations are prepared through the NSC Planning Board, utilizing the resources of the Executive Branch departments and agencies (from time to time augmented by non-governmental consultants), and are circulated to Council members well in advance of the Council meeting for which scheduled. At such Council meetings, discussion is focused upon these written statements and recommendations. While important matters coming before the Council have been usually based on carefully-prepared draft policy statements and recommendations, there has been, and there should always be, opportunity for oral Council discussion of urgent issues or questions.

The Special Assistant for National Security Affairs is Chairman of the NSC Planning Board. The Planning Board consists of representatives of the departments and agencies having an interest in the subject matter to be discussed. Planning Board members possess the rank of Assistant Secretary, or its equivalent, and are appointed by the President on recommendation of the department or agency head. Normally, the Planning Board meets twice a week for sessions that last three or four hours, with special meetings as necessary. The Planning Board met 640 times during the first five years of the Eisenhower Administration.

#### **Handling of New Issues**

When the Planning Board takes up a new issue, or begins a fresh review of an older issue, the Central Intelligence Agency is asked to supply an assessment of the latest intelligence on the issue. The Board also receives a comprehensive study of the basic facts, prepared by either the Department or Agency principally interested, by an inter-departmental committee, or by an *ad hoc* committee combining Government and non-Government experts. Where appropriate, the material transmitted by the Planning Board to the Council includes a financial appendix and military and economic annexes.

The number of times a particular subject comes before a Planning Board meeting depends upon its importance and complexity. A dozen meetings or more may be necessary before the final version of a particular statement is acceptable to the Board. Often, the Planning Board is unable to resolve all differences of opinion on a given subject. These differences are explicitly set forth in the material submitted to the Council. The Planning Board's finished product is circulated ten days in advance of the Council meeting. The Joint Chiefs of Staff in turn, then

circulate—also in advance—their military views on the proposals.

circulate—also in advance—their military views on the proposals.

The National Security Council normally meets on Thursdays at 9:00 a.m. Each meeting lasts two hours or more. The President is frequently a vigorous participant in NSC discussions. The agenda may include a single item or as many as four or five. The Council does not vote, the sense of the meeting being taken on the various issues.

### **A Written Record Prepared**

The Special Assistant prepares a written record of the action taken at each Council meeting. As a further step in the integrative process, his draft is circulated, to those who were present at the meeting for comment before being submitted to the President for his consideration, change if necessary, and final approval. These Records of Action are formal evidence of the President's decisions on national security policies developed through the Council mechanism. Of course, the President may, and does, make policy decisions in other ways which his convenience may dictate.

#### **Recommendations Are Advisory Only**

The recommendations of the National Security Council are advisory only. It is the final approval by the President that creates the policy.

The operation of NSC mechanism is democracy in action. Democracy draws great strength from the participation in policy-making by those who are charged with responsibility for executing that policy. Participation by departments and agencies brings them toward, rather than separates them from, the hub of the wheel. Therefore, when the wheel must bear its burden, the spokes are stronger because they have been fashioned by the participation of the departments and agencies.

All who have an interest in the matter under consideration have an opportunity to be heard. Conflicts at lower levels are not swept under the rug or disguised in bland language. The concept of integration rests, not on the acceptance of all views which may be advanced, but on the opportunity that such views shall be clearly heard throughout the entire formulative process until the Presidential decision is made. Such a procedure eliminates insofar as possible a most serious threat to the rational and orderly conduct of government: *ex parte* decisions by the highest authority. To assure the proper working of this integrative procedure is the responsibility of the Special Assistant for National Security Affairs.

**Question 2. How is the agenda for National Security Council meetings established?**

World conditions are fluid and constantly changing. A policy is not made to be put in a museum showcase, but to be a useful tool. So to be useful it requires continuing review.

The statement of our basic national security policy, to which all our other security policies are subsidiary, is reviewed annually in the Council. Frequently this searching review will extend, as it did in the 1958 calendar year, over a period of several months. It may require a dozen Planning Board meetings and appear on the agenda of several meetings of the National Security Council. The agenda of almost every Council meeting will include a report on the progress made by the responsible departments and agencies in carrying out each national security policy delegated by the President to the NSC's Operations Coordinating Board for coordination. Also, at periodic intervals, the Planning Board re-examines, country, regional, and other security policies and recommends modifications thereof.

## New Policies Required

Changing circumstances or historical happenings also require the development of *new* policies. "New occasions teach new duties." For example, during the last few years, the Council has been concerned with such novel subjects as the Earth Satellite, Outer Space, Exchanges of Personnel and Information with Communist Countries.

The Special Assistant for National Security Affairs is responsible for developing the forward agenda for meetings of the National Security Council and of its Planning Board. Suggestions for consid-



*"Today,  
the climate of opinion  
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eration by the Council come from a multitude of sources: from the President, from the heads of departments and agencies, from the urgency of world events, from developing scientific and technological techniques, from the Planning Board, from the periodic reports of the Operations Coordinating Board, and from the annual "status of programs" reports to the Council by the departments and agencies.

**Question 3. Are there opportunities for improving and strengthening the effectiveness of the National Security Council mechanism in the future?**

I hope that nothing which I have said in answer to the earlier questions will give the impression that I think the National Security Council mechanism cannot be further strengthened, fortified, and improved. On the contrary, though much has been done, much remains to do. The permanent thing in life is change. The continuing validity of the Council operation will depend on its ability to change in order to accommodate to changing circumstances.

Changes that facilitate the use of the Council by the President in resolving his will, that increase the opportunities further to integrate the views of Presidential advisers, or that minimize the chances of Presidential decisions being made on an *ex parte* basis, will tend to improve the Council's effectiveness.

**NSC Freedom of Operation**

To that end, the Council mechanism should freely operate upon the entire area of national security policy-making. The exclusion of any segments of the area should be minimized. From time to time in the past, certain segments have been so excluded, for varying reasons: their highly technical nature, or their extreme sensitivity, or the fluidity of the current situation. In my opinion, the policy situation has been improved whenever the excluded segment was returned to normal course of operation. It is axiomatic in

government that the removal of a certain area from consideration by the agency capable of handling that area tends to weaken and prejudice the effective capability of the agency in the entire area.

Whereas it is difficult, it is not impossible, to handle the development of short-range policies through the National Security Council mechanism. It can and should be used in critical times when action must be quickly taken. In the first Eisenhower Administration, the Council was able to act with great rapidity during critical times in Indo-China, in Guatemala, and in the NATO area.

**Are Policies Too Broad?**

Are the security policies adopted by the President upon recommendation of the Council too broadly expressed? It seems obvious to me that policies adopted by the President, at the very apex of Government, cannot be stated in specific detail. Plans and programs for implementation must be left to the responsible departments and agencies to hammer out within the broad guidance given by the President. Complaint that national security policies are too generally expressed to give sufficient guidance sometimes betrays the complainant's disagreement with the policy guidance received.

General and broad presentation and discussion of the annual Defense Budget through the NSC mechanism is a wholesome development in the right direction. Similarly, great studies which the Council has authorized, like those of Dr. Killian's Technological Capabilities Panel in 1954-55 and of the Security Resources Panel (the so-called "Gaither Committee") in 1957-58, have been a material stimulation and help to all concerned. Again, since Dr. Killian's appointment as Special Assistant, the focusing of Council attention on scientific and technological matters within his competence, has been of great assistance to the President.

**A Deep Interest in Security**

Preserving the security of Council deliberations is a difficult problem in a democracy which rightly prizes free speech and free press. There is naturally a deep interest in the advice given to the President in the sensitive area of national security, and in the action which the President subsequently takes. But whereas the President's decisions on national policy may at appropriate times and in appropriate ways be publicized, it has been an invariable rule since the founding of the Republic that confidential advice given to the President should remain privileged to him. Such a rule of

"... the President's decisions on national policy may at appropriate times and in appropriate ways be publicized . . ."

privilege must prevail if the President is to feel free to call upon intimate advisers for candid advice. Moreover, Council discussions by nature involve military and State secrets which should not be spread before the eyes of powers dedicated to our destruction.

The unfortunate hullabaloo over the "Gaither Committee" report and the demands for its public release, which followed press accounts of what it purported to contain, was a dis-service to the President and raised a question as to whether the use of such valuable consultant groups is worth the political and press controversy which may sometimes arise. Nevertheless, I think on balance that the use of consultant groups from time to time is of inestimable value in the policy-making process.

**Question 4. Do you believe that some additional "policy organization" could or should be formed within the Government?**

My answer to this question is a strong negative.

At the apex of the Executive Branch today we have an elaborate policy-making structure. The Cabinet operates in fields not directly affected by the national security. The National Security Council mechanism operates in national security fields.

Almost every year, the President receives recommendations for reforming the existing NSC mechanism, or adding thereto some further body, in order to deal with a particular segment of national security. We have found in the past that these recommendations did not comprehend or take into account the full stature of the Council mechanism or its existing operating procedures.

The National Security Council structure includes much more than the Council itself. Supporting and fertilizing the Council, in its weekly deliberations, are its two subsidiary bodies, the Planning Board which formulates security policy recommendations, and the Operations Coordinating Board, which assists departmental planning in carrying out security policies and following up on departmental performance. Through these two top-level bodies, with membership drawn from the Assistant Secretary and Under Secretary levels, all the resources of the departments and agencies of the Executive Branch are marshalled and made available. Furthermore, the Central Intelligence Agency and the Joint Chiefs of Staff participate in all deliberations of the Council and its subsidiary bodies.

**NSC Mechanism Appears Adequate**

This mechanism for the integration of policy appears to me fully adequate. It does not need to be expanded. Like all human mechanisms, it is



Wide World

subject to improvements and adjustments to suit changing conditions. The real problem, however, is how to make the most effective use of the mechanisms which now exist. The solution of this problem depends on the quality, competence, devotion, hard work, imaginative foresight, and comprehensive knowledge of the persons responsible for the operation of the mechanism.

The world is full of fallacies, among which is man's tendency to avoid hard and unpalatable decisions. Washington is no exception. A pet fallacy of big government is the bureaucratic concept that the way to settle a difficult problem is to create some new body to deal with it.

**Question 5. What impact should public opinion have on national security policies?**

A national security policy is not created in a vacuum. In all policy formulation there is need to consider the climate of opinion throughout the world, as well as in the United States. Today, the climate of opinion has become one of the significant factors affecting the practice of governing.

On the other hand, neither public opinion abroad nor public opinion at home can be the controlling factor. You will recall the story related to the fighting at the barricades of Paris in the mid-Nineteenth Century. A man running after the crowd toward a barricade was asked by an onlooker why he was following those in front. He replied: "I have to follow—I am their leader." The role of the leader in making policy is to lead, not to follow.

**A Mortal Struggle**

The Free World is in a mortal struggle with World Communism. In this suffocating tension, it is Communist technique through falsehood and threat and blandishment to bring democracy again and again to the brink. At such times — we had several examples during 1958 — it is not feasible to make public all of the cards we hold or fail to hold, without at the same time betraying our

strengths and weaknesses to a remorseless opponent. Diplomacy cannot be conducted in a showcase. If there is a place for "open covenants, openly arrived at," there are also many times when the success of a desired negotiation or the avoidance of armed conflict will depend upon the private exercise of skillful diplomacy.

The successful conduct of foreign affairs cannot be rigidly categorized. There are times to give way, and times to stand firm. There are times to be fully frank; there are times when such frankness would inevitably cost the desired objective. For these reasons, public opinion is an important but never a controlling factor in policy formulation.

**Question 6. What are the most effective ways in which private industry can contribute to the formulation and carrying into effect the national security policies?**

This question does not relate to the performance of our free enterprise system in implementing national policies. The contribution of private American industry to the victorious conclusion of World War II will always be remembered.

Similarly impressive has been the cooperation and performance of private industry in assuring our national defense in the post-war years.

The contribution of private industry to the formulation of national security policy can be best made, I think, by supplying leadership in the Executive Branch of Government; by readiness to respond to governmental calls for special assistance; by volunteering policy views which have been soundly thought out; and by service on *ad hoc* committees and consultant groups in the formulation of security policy.

#### Industry Supplies Many Leaders

In recent years, private industry has supplied outstanding Cabinet and National Security Council leaders: George M. Humphrey, Charles Wilson, Roger Kyes, Marion B. Folsom, Neil McElroy, Sinclair Weeks, Donald A. Quarles, James Mitchell, to name a few. To a greater extent than in prior administrations, private industry has filled top posts in the Executive Branch, matching the leadership drawn from the fields of education, finance, the law, and science.

**U. S. Marines implement a policy decision with last year's landings in Lebanon.**

Wide World



in a showcase.<sup>99</sup>

Individuals in private industry have also been of assistance in connection with the making and reviewing of security policies. During the 3 1/4 years that I was Special Assistant for National Security Affairs, we drew from resources outside of Government, in many instances from private industry, as many as 15 different consultant groups to assist the NSC mechanism in formulating and reviewing policies. Some of these groups worked over long periods of time and their services became known to the public, such as the Technological Capabilities Panel headed by Dr. Killian in 1954-55, and the Security Resources Panel (the "Gairther Committee") in 1957-58. And there were other such groups, happily not so well publicized, who gave the benefit of their time and judgment in a stimulating and most helpful way.

#### Outside Consultants Used

The use of consultants drawn from outside Government is sometimes opposed on the grounds of the time which must be consumed in educating them to the problem they are to consider; of the press controversies which have sometimes attended their work; of their occasional inability to see the whole forest of national security for the particular trees upon which their attention is focused; and of the inevitable burden which their questioning imposed upon the hard-pressed skilled operating personnel in the Departments and Agencies. But, in my opinion, the use from time to time of consultants with expert qualifications is a valuable, if not necessary, adjunct to the successful operation of the NSC mechanism, because it introduces new, imaginative ideas and differing areas of experience which may not be as readily drawn from the internal resources of Government.

#### Question 7. Can you measure the success of national security policies developed to date through the National Security Council mechanism?

The performance of the NSC mechanism and the quality of its policy product depends, as is the case in every human instrumentality, upon the capabilities, the intellectual fibre, and the continuous application to work of the personnel involved in its operation. The policy-making process is always susceptible of improvement and strengthening. And it is the lifeblood of Freedom not to be satisfied with current models.

The only way to measure the success of the policies which have been developed to date is by an *objective judgment*, based upon a comprehen-



sive understanding of the kind of world in which we live and will continue to live for many years. Measurement also requires a *relative*, rather than a *finite*, appraisal. The criterion by which to measure success or failure is not the ideal, but rather a fusion of the ideal, the practical, and whatever may be required at the moment of decision. The fact that Soviet and Chinese Communist military and economic power and technological skills have grown greatly in the last decade cannot by itself measure the merit of American security policy. It is necessary to consider what policy, other than that which was adopted, would have been accepted and implemented by the American people.

#### U. S. Leads Free World

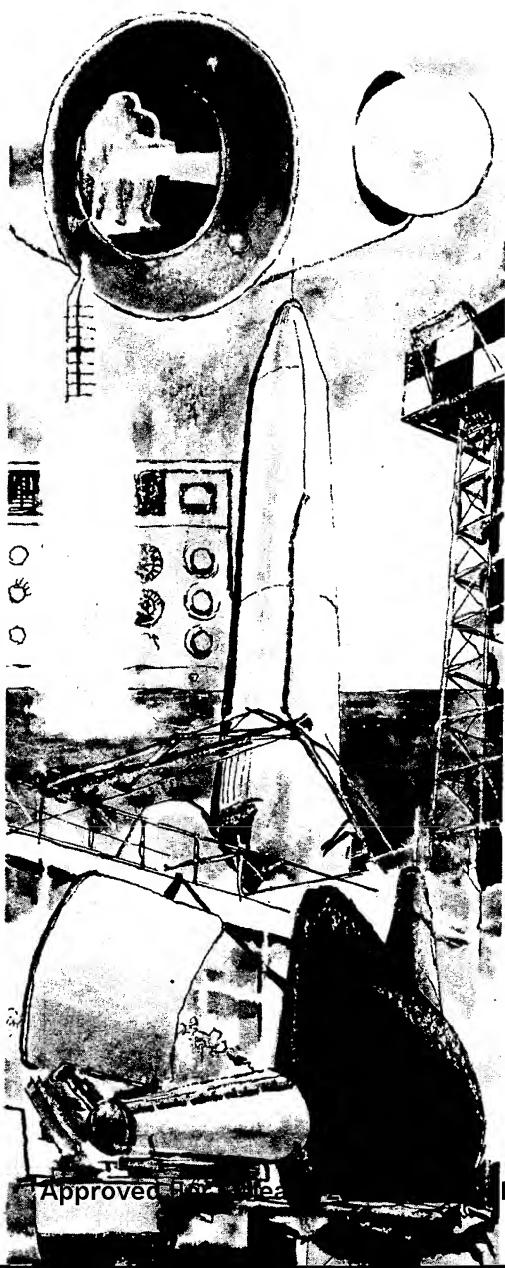
Under the security policies developed during the Eisenhower Administration, the United States has not been embroiled in nuclear war. The United States has led the Free World in vigorous opposition to Communism. The United States has stood firm in the face of incredible pressures and risks created by the truthless techniques and ruthless conduct of the Communist tyranny. The vitality of the United States economy — recognized as a prerequisite to Free World survival through a long period of years — has been maintained and developed. Our free enterprise system has been allowed to operate, without fictitious Government interference, in times of upswing and downswing. An annual rate of defense expenditures sufficient to maintain a reasonable posture of defense has been sustained, without crippling extravagance or parsimony.

In a world poisoned by Communist threats, falsehoods, and propaganda, our policies have constantly sought out a path away from war, and toward a world at honorable peace. I believe that the judgment of history will be that in these difficult years, now and to come, these realistic policies have helped to keep the world from involving itself in the unthinkable chaos of nuclear war. They have helped our personal freedoms, as we received them from prior generations, to pass unenslaved over the bridge of time into the new age that lies ahead.



Mr. Ralph J. Cordiner's qualifications for writing on the subject of industrial management are twofold. He serves as Chairman of the Board and Chief Executive Officer of the General Electric Company, and he is widely recognized as a leader in the concepts of decentralization of business structure, professional management, and personnel development.

Mr. Cordiner joined General Electric in 1923. He has been Chief Executive Officer of the Company since 1950, when he became its President. In 1958, he was elected Chairman of the Board. Mr. Cordiner's familiarity with defense problems stems not only from his General Electric experience, but also from his World War II work as Director General of war production scheduling, and later as Vice Chairman of the War Production Board. He was Chairman of the Defense Advisory Committee whose recommendations formed the basis of the recent modernization of military pay structures and personnel management.



**Three urgent management problems are manifesting themselves in our defense effort:**

- **Our long-range planning ability must be improved.**
- **Increasing complexity of weapon systems demands further decentralization in their management.**
- **Basic economic, political, and psychological changes are necessary for continuing successful defense activity within our free enterprise economy.**

*by Ralph J. Cordiner,*

*Chairman of the Board and Chief Executive,  
General Electric Company*

General Cutler's article in this issue discusses how policies relating to the national security are formulated in the United States. What is the role of industry in the attainment of the nation's security goals?

The material needs of defense in the United States are largely met by the joint efforts of Industry and the Department of Defense. These needs are changing very rapidly. The rate of change, which is one measure of our technological progress, has reached a point at which an aircraft or missile may be technically obsolete by the time it is ready for volume production. In effect, production maneuver is being replaced in first importance by technological maneuver.

#### **Defense Requirements Altered**

Accelerating technological change, coupled with the increased complexity and wider variety of choice of weapons and weapon systems, has

profoundly altered the defense requirements on industry:

- ... Where the need was once for production of existing designs, the prime need now is for designs that afford large increments of technical and military advantage over the weapons and systems they replace.
- ... Where the need was once for facilities that could readily be converted to military pro-

#### A Continual Flow of Information

The answer must be a continual flow of technological, political, economic and military information. The military must be aware of the possibilities and capabilities of industry, particularly in research and development; and industry must be informed as far as possible about military long-range planning.

## Defense Management

- duction, the need is now for special facilities which are essentially non-convertible.
- ... Where the need was once for a large number of general purpose components and sub-systems, the demand is increasingly for complete systems and even super-systems. The need for components of very high reliability and advanced design remains, but they must more and more be planned in context with the concept and design of the system of which they are to be a part.
- ... Scientific knowledge and advice is a resource which industry is supplying the services, the Department of Defense, and other agencies on an increasing scale.

In meeting these new requirements—above and beyond the production miracles performed in the nation's defense—the managers of American industry face new responsibilities, and new and deeper challenges to their managerial skills. Looking at defense broadly, and from the standpoint of how industry can organize to meet these needs most effectively, these would seem to be some of the most urgent challenges of the coming decade:

(1) *The Challenge of long-range planning.* It is not easy to anticipate the military weapons of the next ten to twenty years. In addition to the hazards of a technological break-through which could obsolete existing weapons or concepts overnight, there are the possibilities of a sudden shift in the strategy or the strength of the communist world, or economic or political changes at home. Yet it is more than ever necessary that those entrusted with the nation's security do an effective job of long-range planning—ten, and even twenty years out in the future.

At General Electric, in order to remain sensitive to the over-all needs of the military, we make a continuous appraisal of three kinds:

A long-range look at military requirements, based on forecasts of needs up to ten years ahead.

Long-range technical forecasts—the implications of new technology, and related developments, for weapons.

Sensing the future—through participation in, and continuous appraisal of, scientific progress in our research and engineering laboratories.

There will be time to achieve the unimagined weapons of the future, if we use time to best advantage. The first step in saving time—and tax money—is effective long-range planning.

(2) *The second challenge to managerial skill is increasing complexity.* These problems of complexity are aggravated by the need for very high reliability in the systems and super-systems upon which the national security depends.

Complexity is solved not by centralization, but by decentralization—by so classifying, structuring, and characterizing the job that it can become understandable and manageable by all who participate. The basic problem of complexity is to accelerate our decision-making processes. Decisions are made *only* by individuals, not by groups. And all individuals—not merely managers—make decisions and need to do so *responsibly*. In this day of multiplied, ramified, and yet interrelated knowledge, the man who has some specialized kind of knowledge has just that kind of individual responsibility to apply it in his own work and decision-making. The responsibility and authority should be placed where the needed skills, competence, and information can

# *"...New techniques are emerging in response to the need."*

be brought to bear in choosing among possible alternatives or risks. This is particularly important in innovation, for otherwise the inevitable mistakes may be frozen-in—long past the time they can be economically corrected.

But even with maximum decentralization, the size, scope, and complexity of modern weapons development are placing increasingly heavy demands on our managerial skills. New techniques are emerging in response to the need for people capable of integrating these vast and complicated programs.

### **People Can Be Developed**

Fortunately, we have a number of people who have demonstrated this kind of competence on both sides of the military-industry team. Even more fortunately, in view of the expanding need, such people can also be developed. One stimulus to their self-development is the urgency, pace, and scope of defense business.

One response of industry to this challenge has been to bring together in one, integrated group the best available talent for management of defense systems projects. Their defense management organizations are thus well-matched to the ways in which the military goes about its systems procurement.

(3) *The third challenge, I believe, is partly psychological—though also economic and political.* Americans are a peace-loving, non-militaristic people, who have traditionally met their national emergencies by rising to them with overwhelming resourcefulness—and then returning to their homes and jobs. Planning for long-term defense does not come naturally or easily to this nation. Our political and economic institutions are oriented toward peace. The greatest rewards for innovation have customarily gone to those who were successful in meeting the peacetime needs and aspirations of the American people.

### **Large Defense Effort Required**

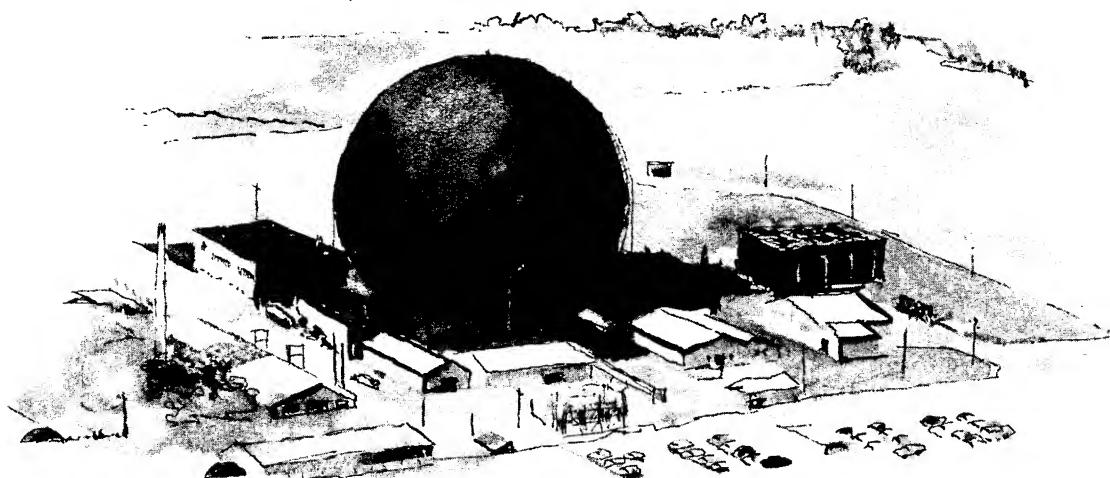
Now we must learn to keep ourselves armed, respecting the power and destructiveness of the weapons we are creating, without succumbing to panic or fear. We must sustain a very large defense effort, year after year, for as long as we can see into the future, without letting it undermine the strength of our economy by inflation, or deficit spending, or excessive taxation. And we must do these things without destroying the incentives to venture and grow that are distinguishing marks of our dynamic private enterprise system.

These things, of course, are challenges that confront the entire nation, and not just defense industry. But in those areas in which Industry shares in this vitally important task I believe it is the business man's particular responsibility to keep the public informed.

### **Defense a Part of Other Businesses**

Industry has made a great deal of progress in a comparatively short time in organizing to meet the new needs of defense. Many companies are now organized for long-term defense business as an integral part of their other business. Technologies and facilities have been integrated, and where new managerial skills were needed they are being developed in depth. In these, and other areas, General Electric and other companies are constantly re-examining their responsibilities and trying to respond creatively to the changing needs of defense.

What we will ultimately be able to do, of course, will be as part of a science, industry, and military team. From what I have learned of the men and the women in the armed services, I am confident that any constructive proposals from industry will receive their thoughtful consideration.



Aside from a short time as a news reporter in 1940, Senator John F. Kennedy's adult life has been spent in government service. Born in Brookline, Massachusetts in 1917, Senator Kennedy graduated from Harvard University in 1940 with Cum Laude honors. He attended the London School of Economics and in 1941, joined the United States Navy. Following his retirement from active duty in 1945 and a stint as a reporter, Senator Kennedy was elected to the House of Representatives, where he served during the 80th, 81st and 82nd Congresses. On November 4, 1952, he was elected to the Senate and only several months ago was re-elected to another term of office.

Senator Kennedy has written two books entitled *WHY ENGLAND SLEPT* and *PROFILES IN COURAGE* and numerous articles. *PROFILES IN COURAGE* won the Pulitzer Prize for Biography in 1957. On the Washington scene, Senator Kennedy has received national notice for his active part in recent hearings before the Senate Select Committee on Labor-Management Relations, of which he is a member, and for leading the fight for labor-management reform legislation. Senator Kennedy is also a member of the Senate Foreign Relations Committee and Chairman of the Labor Subcommittee of the Labor and Public Welfare Committee.



# Congress: How it Works Toward a More Organized Defense Effort

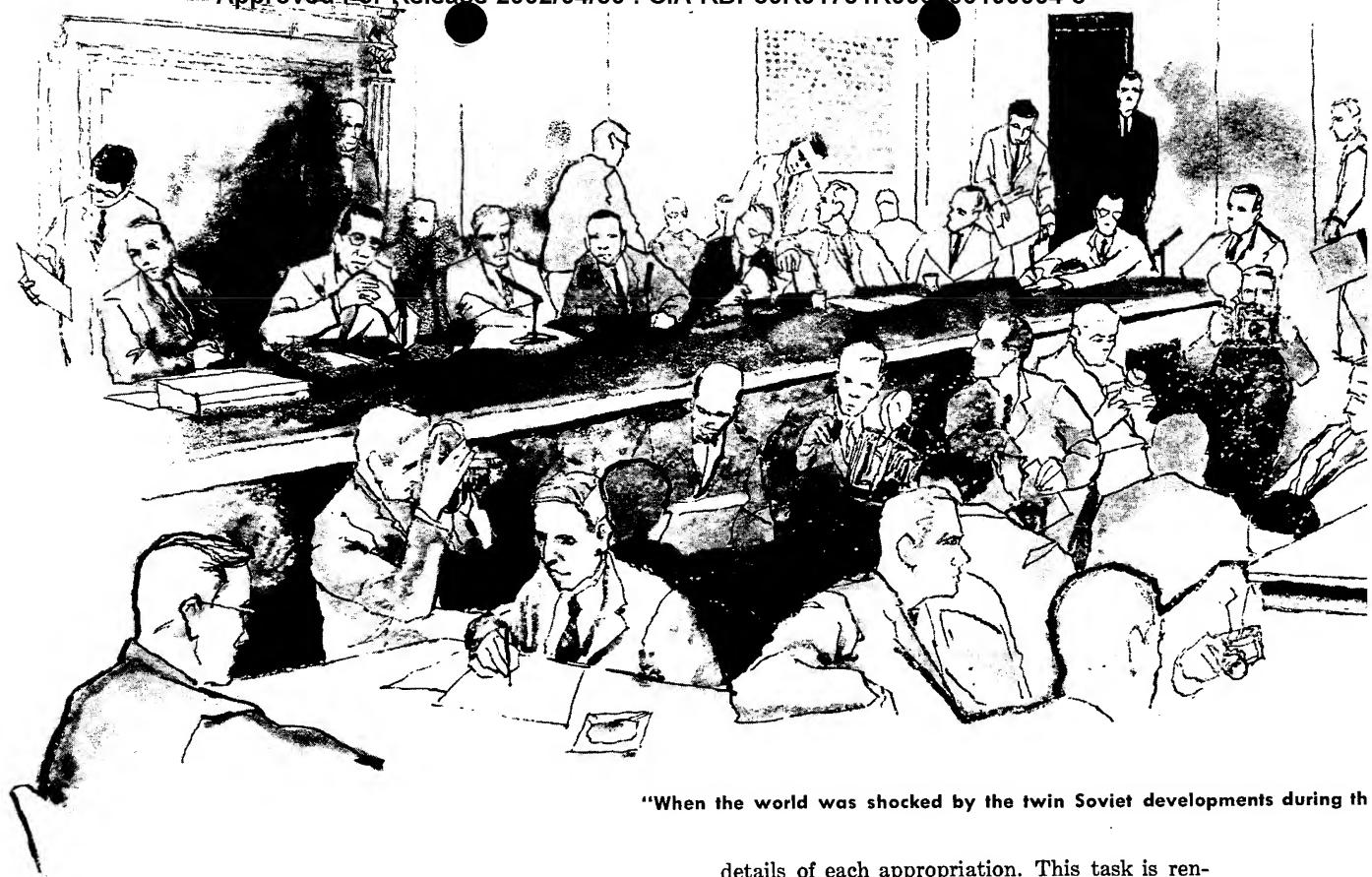
by Senator John F. Kennedy, Massachusetts Democrat

**Defense is a public responsibility. Representing the people, Congress exercises its Constitutional control over defense policies five ways:**

- by fund appropriation
- by legislation
- by investigation and supervision
- by specifying the size and composition of armed forces
- by approval of key appointments

Of over-riding importance today to the people of the United States and to the entire world is the defense posture of the United States, for upon the state of our defense effort may rest the issue of war or peace. This promises to be, in the 86th Congress as it has been in the 85th Congress, a fertile field for proposals, debate and legislation.

Basically, there are five ways in which the Congress exercises its Constitutional control over defense policies. First and perhaps most important, it must appropriate the funds for the operation of the various departments with executive responsibility for our defense effort. Before



"When the world was shocked by the twin Soviet developments during th

*"Laws such as the  
Defense Reorganization Act  
... tighten responsibilities  
... and eliminate  
duplicatory functions."*

an appropriation is made there are committee hearings at which all interested persons may appear and testify or file written statements, there is a report by the sub-committee and there is a vote by the full committee sending the particular appropriation to the Senate floor. Again, on the Senate floor the appropriation is critically examined and may be increased, decreased or eliminated.

#### **Defense Costs Top \$40 Billion**

With budgets that hover around 80 billion dollars, and a defense bill in excess of 40 billions, it is a Herculean task to become familiar with the

details of each appropriation. This task is rendered even more difficult by the former system under which appropriations made in one year could be spent many years in the future. Thus, in the fiscal year ending in June 1958 there were appropriations totalling 70 billion dollars which had been made in prior years but had not yet been exhausted. It was therefore theoretically possible to spend 150 billion dollars in fiscal year 1959. Of course, as a practical matter, this was not done because the appropriations being carried over usually involved long lead time contracts and the money was spent over many years. However, Congress lost control over the 70 billion dollar carryover as soon as the money was appropriated.

#### **Carryovers Can Be Eliminated**

This anomalous situation which could, and—it was charged in one instance—did lead to the purchase of propeller driven aircraft in a jet age, was a source of both confusion and irritation to those interested in economical and efficient government. The second Hoover Commission recommended that an accrued annual expenditures system of budgeting be adopted which would eliminate these carryovers, and estimated that this might save as much as 4 billion dollars per year. The Kennedy-Byrd-Payne bill which was passed in the closing days of the 85th Congress authorizes the executive to adopt this new method of budgeting and it is hoped that future budgets will adopt this improved system.

The second method of exercising control over the defense effort is through legislation. Laws



fall of 1957 . . . a special investigation was launched."

such as the Defense Reorganization Act adopted by the 85th Congress tighten the responsibilities of the various services and eliminate duplicatory functions. Prior to the adoption of that law there was a thorough and exhaustive debate before Congressional committees, on the floor of the Senate and the House of Representatives, and in the public press. Functions were scrutinized and chain of command delineated. The wisdom of the law has already been demonstrated.

#### Investigation Results in Action

Third, Congress exercises its authority by means of its investigatory and supervisory arms. The appropriations committees carry on a continuous investigation of the use of funds and may be sharply critical when there is waste. The Armed Services Committees deal with substantive legislation. Although they exercise continuous authority their activity is dramatized whenever there is a new development. For instance, the Preparedness Sub-committee of the Senate Armed Services Committee began issuing a series of reports dealing with the posture of the defense effort prior to the Korean War which has been continued to the present. However, when the world was shocked by the twin Soviet developments during the fall of 1957 which showed they could fire an intercontinental ballistic missile and could launch an earth satellite, a special investigation was launched. It was apparent to the most undiscerning eye that we needed a re-evaluation of our scientific progress, our educational standards, our atomic development activities, our defense program and our space research.

Although we had been working for many years on the development of both an intercontinental ballistic missile and an earth satellite, Russia's two-fold triumph showed that we no longer held undisputed military and scientific pre-eminence over the other nations of the world.

The Preparedness Sub-committee heard current and former military leaders, government officials, scientists, educators and industrialists. A similar investigation was also conducted by the House Armed Services Committee. As a result, the nation entered into an expanded and accelerated missile-satellite program.

Direct products of this investigation were increased appropriations for national defense, a Defense Education Act which established the federal program to aid students interested in scientific and mathematical training and, the establishment of space committees in both branches of Congress and a Space Agency in the Executive branch.

#### Congress Controls Size

Fourth, the size and composition of the armed forces are subject to Congressional control. Although the President, as Commander-in-Chief, directs the specific utilization of the funds voted by Congress, the broad division of the funds between the Army, the Navy, the Air Force and the Marine Corps is specified in Congressional legislation. It has, upon occasion, directed that a specific component not be reduced disproportionately.

Fifth, all appointments to the position of Secretary or Assistant Secretary of Defense, Army, Navy and Air Force are subject to Senate confirmation. Appointments and promotions of commissioned officers are also subject to Senate confirmation. This provides a means whereby the Senate may review the qualifications of civilian and military officials for their posts.

#### Defense A Public Responsibility

Through these five channels Congress meets its obligation to assure this nation a vigorous military establishment. From the larger view, however, defense is a public responsibility. Nothing touches the American family more intimately and nothing plays as large a part in our plans for ourselves and our children than the problems of war and peace. Thomas Jefferson once said: "Enlighten the people generally, and tyranny and oppression of body and mind will vanish like evil spirits at the dawn of day." The process of enlightenment is carried on by means of the many legislative processes which, in turn, are reported by the press. Participation by the members of the public should follow such enlightenment and their views should guide your representatives in Congress.

A veteran U. S. Senator looks at needed legislative changes  
in the context of U. S. Defense requirements.

# Organizing for Defense

by Senator Leverett B. Saltonstall, Massachusetts Republican

## Why and how our whole defense effort must be geared for "lightning fast response."

After concluding a reorganization study of a military department a few years ago, the noted defense authority, Ferdinand Eberstadt remarked that "reorganizing a military service is like kicking a 200-ft. sponge around". Considering the enormity of the Defense Establishment his remark aptly describes the frustration Congress sometimes experiences in prescribing regulations for the Defense Department's operation.

President Eisenhower gave a mighty lift to that same sponge in the last session. He guided through Congress a vital reorganization measure which I sponsored in the Senate.

Once implemented, the President's bill will help to clear channels of command and will enable the Secretary of Defense to handle much more efficiently and effectively the enormous operations of the Defense Department.

But Congress has concluded only part of the

job — an even more vital area of reorganization lies ahead.

## Congress Assumes Responsibility

Traditionally Congress has assumed responsibility for setting forth the processes by which the military agencies procure supplies and services. In 1947 and 1948, extended hearings were held from which the Armed Services Procurement Act emerged. It was thought at the time to be a good, workable Act which fully protected the government's interest. Much of our experience under the Act has borne out its wisdom.

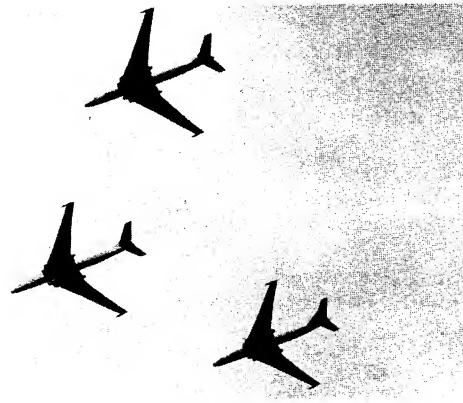
But it was written in the climate of a world at peace — in days after World War II.

Since the writing of the Act, military technology has dramatically changed. Military concepts and requirements have been drastically revised, and the climate is one of uncertain peace, of tension, and crisis.

Thus in the Space Age—the era of the ballistic missiles and the brush wars — the capability for lightning-fast response, perhaps on twenty minutes' warning time, is essential for our security



The B-52, U. S. long-range bomber, required 8½ years to move from drawing board to runway.



Bison, Soviet counterpart of the B-52, required only 4½ years lead time to reach operational status.

# Defense Procurement

forces. Our whole defense effort must be geared to a comparable time table.

## Procurement Statutes Studied

Following the Preparedness Investigating Subcommittee hearings last fall, I began to study our procurement statutes to determine if they were, in fact, geared to the needs of our defense effort.

An experienced student of defense operations, Dr. J. Sterling Livingston of the Harvard Business School had testified before the Subcommittee that the Russians have been able to cut lead time to one-half that of the United States. The Soviet Bison, for example, moved from drawing board to runway in 4½ years; the B-52 took 8½ years.

Lead time, that is the time required to transform ideas into hardware, is one of the nation's most critical military problems. It involves Congress, the Defense Department, and American industry. The decision-making process must accelerate for a life-and-death competition.

In short, Congress needs to bring up-to-date its prescription for defense procurement and production.

## Restrictive Provisions Breed Difficulties

Innumerable examples can be cited of the difficulties encountered by government and industry in operating under some of the highly restrictive provisions of the Procurement Act and subsequent amendments.

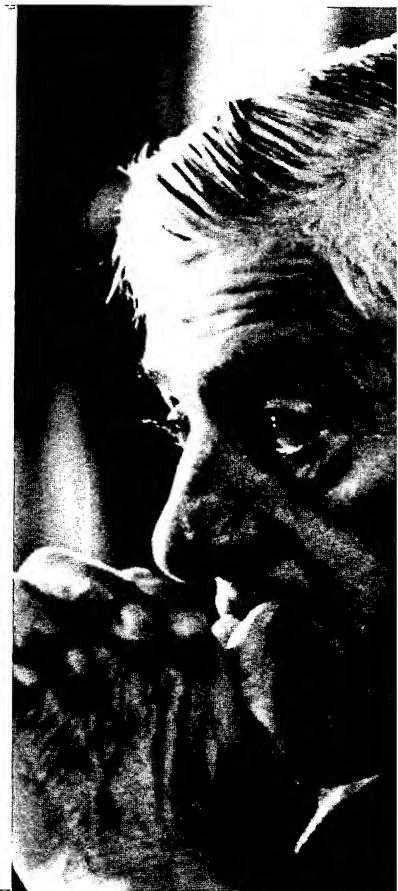
One example has been offered by Professor Livingston of the contractor who wanted to change from a one-day to an eight-day aircraft clock in the cockpit of an aircraft he was building. He had to submit elaborate justification through a multitude of Pentagon committees. The approval was finally received months later, but an important piece of military equipment was substantially delayed.

Simply consider government specifications. For some relatively uncomplicated equipment, sheaves of paper are required for detailed de-

scription—for everything from simple glass ashtrays (8 pages) to fuel tanks (a paper mountain, 1 foot high). Detailed specs are required by Procurement Act amendments.

After studying the procurement statutes and conferring with Pentagon officials, I filed in August a major proposal for modernizing our procurement process. Among its other provisions, it calls for the elimination of detailed specifications and the use, whenever possible, of performance requirements.

United States Senator Leverett Saltonstall of Dover, Massachusetts, began his career in Washington in 1944 after having served three consecutive terms as State Governor. Since his election to Congress, Senator Saltonstall has been closely associated with defense and military legislation. He is the ranking Republican member of both the Senate Armed Services Committee and the Defense Subcommittee of the Senate Appropriations Committee. For the past several years, Senator Saltonstall has been a member of the Senate Republican Leadership, as Whip and as Chairman of the Conference. Senator Saltonstall received his undergraduate and graduate degrees from Harvard University and served as a First Lieutenant in the First World War. He started his career in public service at the age of 28. Senator Saltonstall has received more than 20 honorary degrees. He is a member of the Board of Regents of the Smithsonian Institution and is associated with several national fraternal organizations. With all of these interests and commitments, Senator Saltonstall still tries to find time to pursue his favorite hobby, which is working on his family farm in Dover.



# *"We must free the resources, ingenuity and talents*

A principal provision calls for the use of so-called weapon system procurement for major military systems.

### **The Weapon System Concept**

Briefly the weapon system concept assigns over-all weapon responsibility in the hands of one contractor (or a group of contractors), who supervises, subcontracts and coordinates. The government does not attempt to contract for and control every detailed component, which commonly duplicates the efforts of the prime. It involves bringing together, in accordance with a central management plan, various lines of development in order to achieve an integrated, self-sufficient instrument of combat. As described by a leading industry executive "the objective is simply to achieve operational availability of the most advanced equipment at the earliest possible date and at minimum cost".

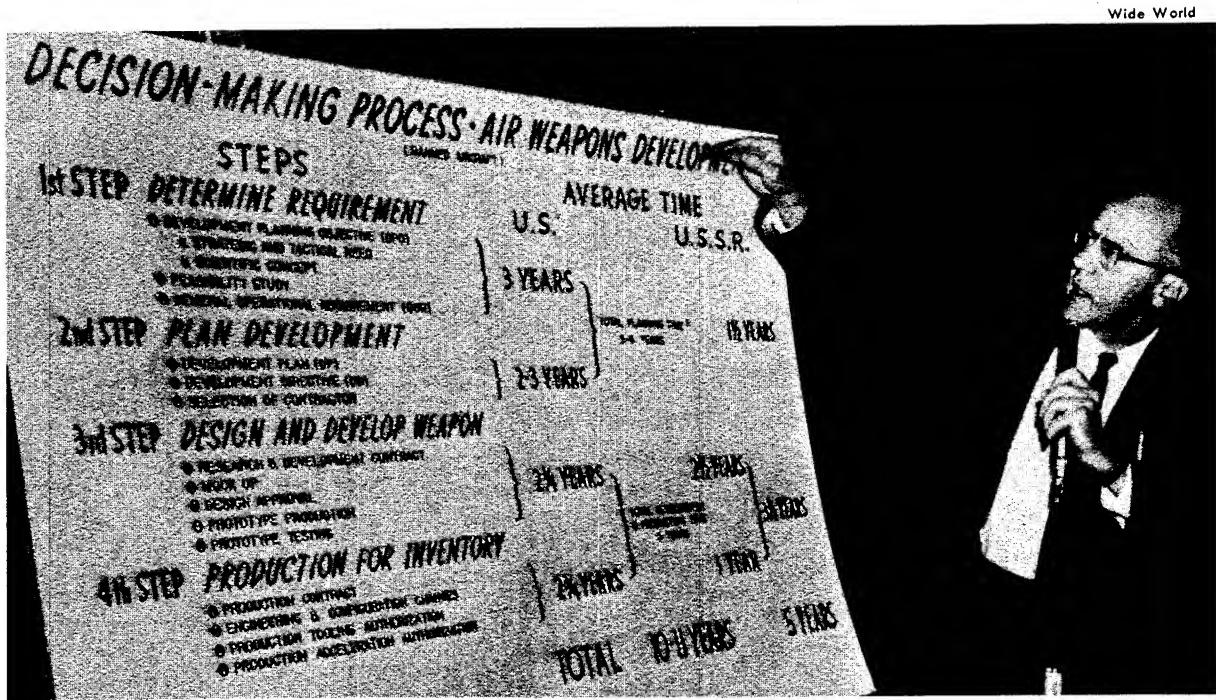
Professor Livingston described as a necessary "management breakthrough" the coupling of authority with industry responsibility. We must free the resources, ingenuity, and talents of private industry to develop every technological opportunity.

The weapon system has been occasionally criticized for failing to give smaller bidders a full opportunity to supply components and sub-assemblies. But we must recognize that as weapons become larger and more complex, opportunities are lessened for the large direct contracts with the government. In recognition of this very critical problem, the bill calls for a widening of our industrial mobilization base by requiring maximum small business participation at a subcontractor level in major weapon system production. This is essential; continued economic opportunity for small business through government procurement goes to the essence of our free enterprise system.

### **Two Contractual Types Encouraged**

The legislation further encourages the use of incentive and fixed-price contracts whereby industry, given the authority and responsibility to perform a certain military obligation, is, in addition, given the inducements to produce efficiently.

An incentive contract offers a contractor an opportunity if he can reduce costs below contract targets to keep a small percentage of the savings achieved and return the bulk to the government.



Senate's Preparedness subcommittee heard Harvard University's Professor J. Sterling Livingston testify

that the Russians have been able to cut lead time to one-half that of the U. S.

# *of private industry."*

The wisdom of our economic system, which is motivated by a variety of free incentive factors, has been borne out over the years. No other nation has achieved a comparable rate of industrial growth. To fail to recognize and utilize the best inherent in this system, particularly in an area upon which our security depends, is sheer folly.

Thus the bill further calls for the exemption from renegotiation of those contracts in which we deliberately attempt to create profit incentives and thus achieve savings to the taxpayer. Under existing statute, a contractor who establishes an improved profit through savings to the government is required some years later to account for these profits and probably to return a substantial share. The administrative procedure involved is long and costly and appeal to the Tax Court is frequently necessary.

### **Government Interests Fully Protected**

If our contracts are properly executed in the first instance, the government's interests are fully protected. Involved administrative procedures later are both costly and unnecessary; furthermore, they defeat one of the principal methods for encouraging savings to the taxpayer.

For many years Congress has been voicing concern over the preponderance of government contracts that are negotiated rather than awarded by advertised procurement. Much of the concern arises from the assumption that advertised procurement best protects the government's interest. Yet negotiation is *necessarily* used in the vast majority of all contracts.

It is time to recognize that perhaps the exception should be the rule — that in many situations *properly* negotiated contracts can best protect the government's interests. One Pentagon official has estimated that 85% of advertised bid contracts bog down with some kind of snag in production and are costlier in the long run than the negotiated procurement. In addition, they take much longer to prepare for and execute.

### **Competition Possible in Negotiation**

And in most instances every element of competition is possible in negotiation. This bill recognizes the meeting ground between the two forms of procurement and places on an equal plane all procurement, negotiated or advertised, so long as elements of competition are present.

In brief summary, Congress can consider these potential benefits:

- a) A reduction in detailed supervision of government contracts;
- b) The establishment of incentives for the fullest utilization of industrial ingenuity;
- c) Management responsibility for weapons development coordinated by industry;
- d) Speed and efficiency in weapons development and production;
- e) Reduction of paper-work and ultimate savings to the taxpayer.

The response to this legislation from both industry and government has been heartening. Important industrial organizations have held discussion meetings on the proposal. Several industries have turned counsels and research staffs to work on the proposal. Top executive management of the Defense Department has expressed great interest and there has been a strong expression of approval from the public at large.

Modernizing our procurement effort is an enormous undertaking. It will require all the wise counsel we can muster from Congress, industry, the Pentagon and interested students of defense organization. Before hearings are held, suggestions and recommendations will be earnestly solicited from every source.

### **We Have Strength to Deter Aggression**

Undeniably the United States has maintained over-all military superiority in the great power struggle of the cold war. We have today the necessary military strength to deter aggression — to discourage any nation from attacking us because of the knowledge that we could return upon him complete devastation.

It is this strength that we must maintain in the years ahead. If we were to presume that our future security — and this is a sound assumption — depended upon our ability to maintain adequate military strength for deterrent capability, then lead time, the development of weapons from ideas to hardware, is all critical. We can ill afford a month's or even a week's delay in vital procurement.

Our Pentagon planners can meet the challenge of the future. Industry has the ingenuity and resourcefulness. Congress must now remove the restrictions on both.

For upon the speed and efficiency of our procurement procedures and upon our military-industrial strength may well depend the peace and security of the free world.

An industry spokesman gives his organizational formula for  
economy, efficiency, and rapid results in defense work.

# KEEP IT SIMPLE

*by J. H. Kindelberger, Chairman of the Board, North American Aviation, Inc.*

From the viewpoint of a defense contractor, one of the primary objectives of both Government and industry in the organization of defense procurement should be simplicity. I emphasize this aspect because so many factors are working in the opposite direction, yet simplicity is essential from the standpoints of economy, the best utilization of resources, and rapid attainment of performance objectives.

In urging simplicity I refer not so much to equipment concept and design, which are the provinces of scientists and engineers, but rather to policies, procedures, organization, and other parts of the machinery and methods devised by the Government and industry as a basis for the procurement relationship.

Working against simplicity in this procurement relationship are such factors as the tremendous importance and cost of defense equipment, which impose very heavy responsibilities upon those charged with procurement, development, and manufacturing decisions; the intricacy of the equipment and of the development and manufacturing processes necessary to bring it to operational status; and of course the complex operating rules that exist and that are constantly being amended and expanded in vain attempts to codify common sense and meet the pressures of various kinds generated in our democratic society. I have observed that even the most elementary operation can become complicated over a

period of time if you get enough people thinking about it and working on it. A lot of people have been working a long time on the principles and practices of defense procurement, and it is not an elementary operation.

#### **Determined Effort Needed**

What is needed, therefore, is a constant and determined effort to "keep it simple." If this effort is vigorous enough we can perhaps hold our own in the fight to save the nation from conquest by red tape. Still greater effort may produce a net gain, although often the apparent gain is promptly offset by more rules, more reports, and increasingly complex procedures.

The present trend in weapon system management, wherein the Government is attempting to rely to a greater degree upon industry for developmental coordination and decision-making, is an example of an encouraging step in the right direction. Industry welcomes the challenge and will strive very hard to apply effectively the talents and advantages that are claimed for independent business management—including fast communication and decision-making, close identification with the daily operating problems, procedural freedom and flexibility, and abhorrence of red tape. As one Air Force officer stated the case in explaining why private industry had been enlisted to manage weapon system development, "Only

James H. Kindelberger, Chairman of the Board and Chief Executive Officer of North American Aviation, Inc., has been associated with the aviation industry for over 40 years.

Born in Wheeling, W. Va., Mr. Kindelberger left Carnegie Institute of Technology in 1917 to enter the aviation section of the Army Signal Corps. Upon his discharge from active duty, he joined the Glenn L. Martin Co. and, in 1925, was named Vice President of the Douglas Aircraft Co. In 1934, he was named President of the General Aviation Manufacturing Corp. and the following year became President, Director and General Manager of North American Aviation, Inc. In 1948, Mr. Kindelberger was made Chairman of the Board of Directors and Chief Executive Officer of North American.



industry possessed the skills, know-how, management strength and freedom of action to do this job."

#### **Effectiveness Can Be Compromised**

It is too early to form any final judgments concerning the success of industry's increased role in weapon system management, but it should be emphasized that effectiveness of the technique can be compromised through unwillingness of the Government to yield sufficient freedom and authority to match the delegated responsibility and make the system pay off in terms of speed, economy, and simplicity. To make it work as effectively as we believe it can will require a high order of courage and conviction by procurement officials, close teamwork between Government and industry at all levels, and adherence to the highest principles and standards by industry.

Still another area in which encouraging progress toward simplicity is being made is that of incentives. There has been a great tendency in this country to develop a lot of confusion and complicated rules having to do with the primary business incentive known as profit. The obvious thing to do about defense industry profit is to utilize it in the nation's interest to evoke optimum effort by the nation's most competent development and production organizations, in which event the net cost to the taxpayer per unit of defense capability will be substantially less than if we have a lot of would-be experts studying the pennies of profit and ignoring the dollars of cost.

#### **Some Rewards Confiscated**

As a result of the carnal concept of profit that still exists in many quarters, we now have the situation of Government procurement agencies negotiating contracts which provide increased financial rewards to firms that do an outstanding job of *reducing the total cost to the Government*, and another branch of the Government in effect confiscating these same rewards as "excessive." Through the machinery of this statutory renegotiation process, those defense contractors who re-

ject the allegation that their contracted-for incentives are excessive find themselves in the position of having to go to court in the hope that, more than five years after earning the reward, they may finally be sure that it is theirs to keep. This is the antithesis of simple, direct, and useful incentive.

Today, however, there is encouraging evidence that the current Congress may remove or so modify the renegotiation statute as to permit the nation to utilize profit incentives effectively in the defense program. At the same time there are intensive efforts by the services to develop new direct incentives not only for economy but for delivery and optimum quality. These areas are often difficult to define in mutually acceptable terms, but the potential advantages to be gained through these techniques justify a continuing effort to solve the problems. Clearly defined objectives, full recognition of risks, and positive, direct rewards will go a long way in improvement of the nation's defense effort. Organizations both large and small respond best to simple stimuli, just as a mule will pull a plow faster and farther in pursuit of a carrot than in response to a lecture on the virtues of hard work.

#### **Principle of Simplicity Endorsed**

Interest in and effort toward simplicity is not, of course, exclusive with defense contractors. Undoubtedly all military and civilian personnel concerned with defense procurement wholeheartedly endorse the principle, and many recognize the contrary trend and are working actively to oppose it.

Continued joint efforts along this line by Government and industry will become even more essential with each increment of progress in the technology of defense. The tougher the job, the greater the payoff for efficient application. It is also time to recognize that defense development and production can no longer be regarded as undertakings for intermittent emergencies. The problem will be with us for many years and it is desirable that we solve it in the best traditions of American enterprise.



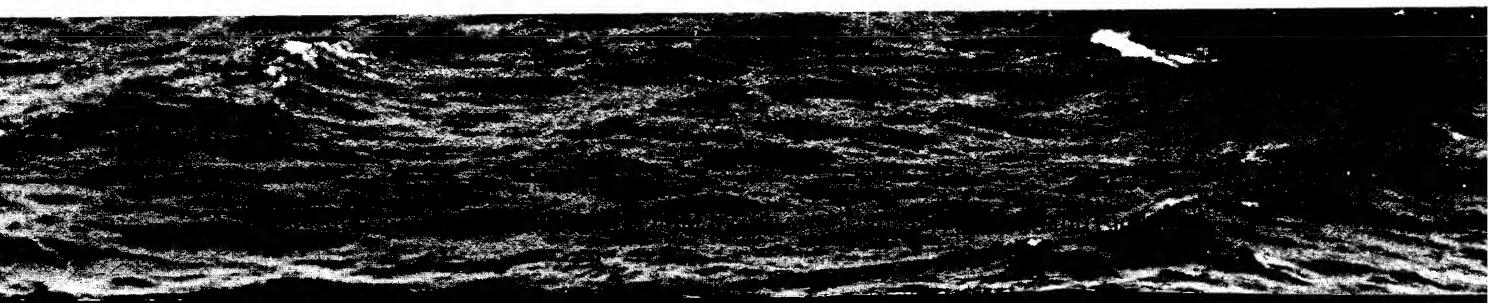
Rear Admiral William F. Raborn, Jr., is the Navy's Fleet Ballistic Missile Program Director. A 1928 graduate of the U.S. Naval Academy, he spent 12 of his early Navy years in a variety of fleet assignments. In 1940, he established the U.S. Naval Aviation Gunnery School at Pearl Harbor.

From 1945 to 1947, Admiral Raborn served as Chief of Staff to the Commander, Task Force 58, and as Commander, Carrier Division 2, Western Pacific. In 1952, he was appointed Deputy Director, Guided Missile Division, Chief of Naval Operations. In 1955, after one year as Commanding Officer, USS *Bennington*, he was appointed Assistant Chief of Staff, Commander, U.S. Atlantic Fleet. Later that same year he was named to his present position of Director, Fleet Ballistic Missile Program.

# Management of the Navy's Fleet Ballistic Missile Program

How a businesslike approach to defense organization can result in on-time, on-budget progress for a highly sophisticated weapon system; a system which will combine two of the world's most versatile and powerful weapons—the nuclear submarine and IRBM, Polaris.

*by Rear Admiral W. F. Raborn, Jr., USN, Director, Fleet Ballistic Missile Program*



The Fleet Ballistic Missile (FBM) Program is aimed at combining two of the world's most versatile and powerful weapons, namely the long-range, nuclear-powered submarine and the fast, hard-hitting, intermediate-range ballistic missile, POLARIS. As the FBM Program is fundamentally and uniquely based upon taking full advantage of today's state of art and also upon the best technical judgment of the state of art in 1963-1965, a new and unprecedented role was called for in the assignment of a service weapon system manager.

Technical development of the FBM System with top priority had to be related to the very practical problem of utilizing and supplementing existing research, facilities, and other resources with a minimum of interference to the Navy's other essential activities and without duplicative effort. Management approach had to provide the flexibility needed for research and development of the missile and the shipboard weapon system without impeding or delaying the design and construction of the nuclear-powered submarine which is the assigned responsibility of the Chief, Bureau of Ships. An effective management system had to be developed for the FBM System under which detailed plans could be formulated and dovetailed, responsibilities of all contributing Naval agencies and contractors delineated and coordinated, numerous projects within the program justified, budgeted, and funded, and finally, performance accomplishments gauged.

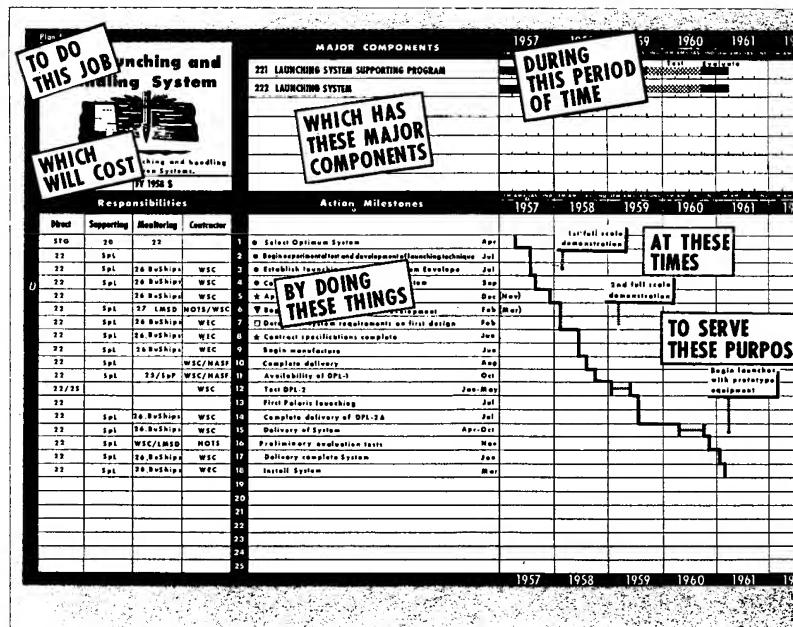
#### Required Pace Maintained

To insure that such a broad, complex, and difficult program maintained required pace in a narrow time scale, the weapon system manager had to report directly to the Secretary of the Navy and exercise his responsibilities within an over-all policy and program review framework established by the Navy Ballistics Missile Committee, of which the Secretary of the Navy is Chairman.

The Director, Special Projects, received the assignment as weapon system manager and established the technical parameters of the FBM Program and his necessary management system.

The principal objectives of the FBM management system are to organize facts for complete

decisions and staff actions, to provide a basis for accountability of performance on approved projects and a "need-to-know" reporting system, and to provide a framework for responsible and objective evaluation of progress. Before a project is undertaken, the staff is required to think ahead in terms of both the interim and ultimate operational requirements and development characteristics. This is done first by the development of a technical proposal which outlines and justifies the features of the project, funds, action milestones, and supporting requirements requested in relation to the predetermined system parameters and the expected results and performance levels to be achieved. These proposals are then reviewed and a decision made by the Special Projects "Board of Directors" consisting of the Director, his Deputy, and the heads of his Plans and Programs and Technical Divisions. Once approved, the second step is to incorporate the proposal into a program management plan which defines the job to be done, its major components the relative responsibilities of government agen-



A master schedule sheet for Fleet Ballistic Missile System Development.

*...any management system...must have unqualified support from all persons associated*

REPORT OF PROGRESS AGAINST PROGRAM REQUIREMENTS RAYORD-4153 (REV. 1-58)		CLASSIFICATION (Area filled in)	WEAPON SYSTEM
FROM NAME AND LOCATION OF CONTRACTOR OR MILITARY SERVICE INSTALLATION OR ACTIVITY PERFORMING THE WORK		REPORT CATEGORY	CONTRACT NO.
		REPORT PERIOD (7/7/67-)	
See instructions on reverse before filling in.			
TO			
REPORT ITEM      SCHEDULED COMPLETION DATE      ESTIMATED COMPLETION DATE      DATE COMPLETED      REMARKS (A)      MILESTONE      (C)      (D)      (E)      (F)			
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To: Sp-12      (CONFIDENTIAL when filled in)

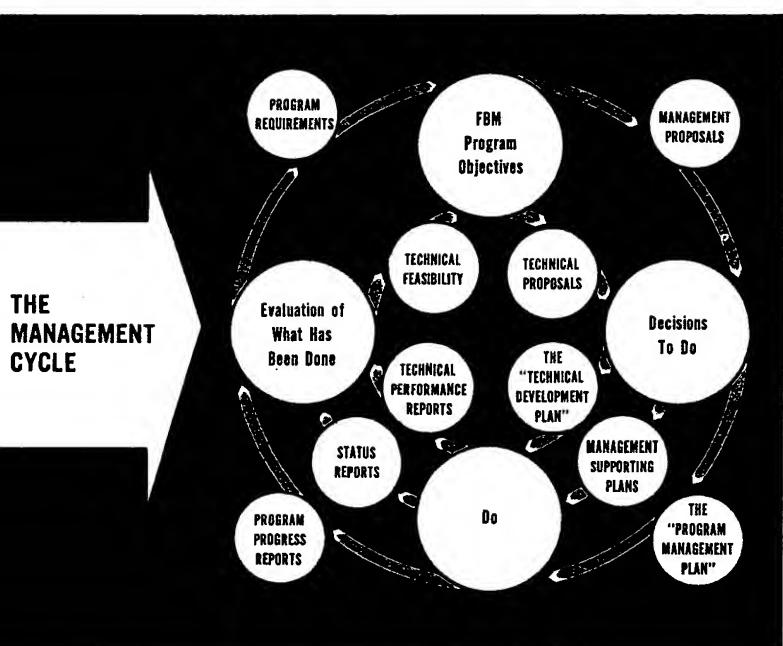
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Form A (5050-1)

MILESTONE SIGNALS AND CHANGES TO MANAGEMENT CENTER CHARTS  
FOR WEEK ENDING \_\_\_\_\_

Chart #	Mile-stone #	Signals G OR B ● □ ▼ ★	Change or reschedule date to:	Remarks - (Include reason for signal, other than green, and rescheduled dates)

Formal reports on all phases of FBM progress are submitted bi-weekly.



Fleet Ballistic Missile System's management cycle is structured to insure constant orientation toward over-all program objectives. Changing technical situations result in constant new input for the cycle.

cies and private contractors for the tasks, and the action milestones to be completed with target dates for completion. These plans are then printed and distributed to the Special Projects Office staff, interested Naval agencies, and cognizant contractor personnel. These plans are revised often to reflect completion or revision of milestones and changes in the time schedule.

#### Need for Progress Reports

Government agencies and private contractors are required to report progress against the milestones included in the program management plans. Formal reports are required normally on a bi-weekly basis. Milestone reporting, as well as recurring technical progress reports, are specified in a clause in the contractor's contract with the Navy. Of course, this system is supplemented by frequent conferences of Special Projects staff and contractor representatives either at the Special Projects Office or the contractor's plants for on-the-job review and discussion of the developmental progress, and at the shipyards where the construction or conversion work is underway. In instances where problems arise which could endanger completion of critical program dates, Special Projects has strongly urged the prime contractors and their key subcontractors to employ the "line-of-balance" production analysis. This technique requires the scheduling of material and component flow in relation to end items schedules. It provides assurance of orderly scheduling of the production process and effective control over material deliveries. The results of the "need-to-know" reporting system, the "line-of-balance" analysis, and conference reports are used to provide a comprehensive and current record of planning effort, performance facts, and program evaluation in the Special Projects Management Center. This system enables the Director and his staff to keep informed of progress and enables prompt decisions or, if necessary, referral to higher authority for resolution. Internal balance, integration, and coordination of the entire research and development effort is assured.

#### Program Nerve Center

The Management Center of Special Projects serves as the nerve center for the entire program and frequent presentations are made for the benefit of higher authority, other government agencies, and Congressional groups concerned with military affairs and appropriations. In addition,

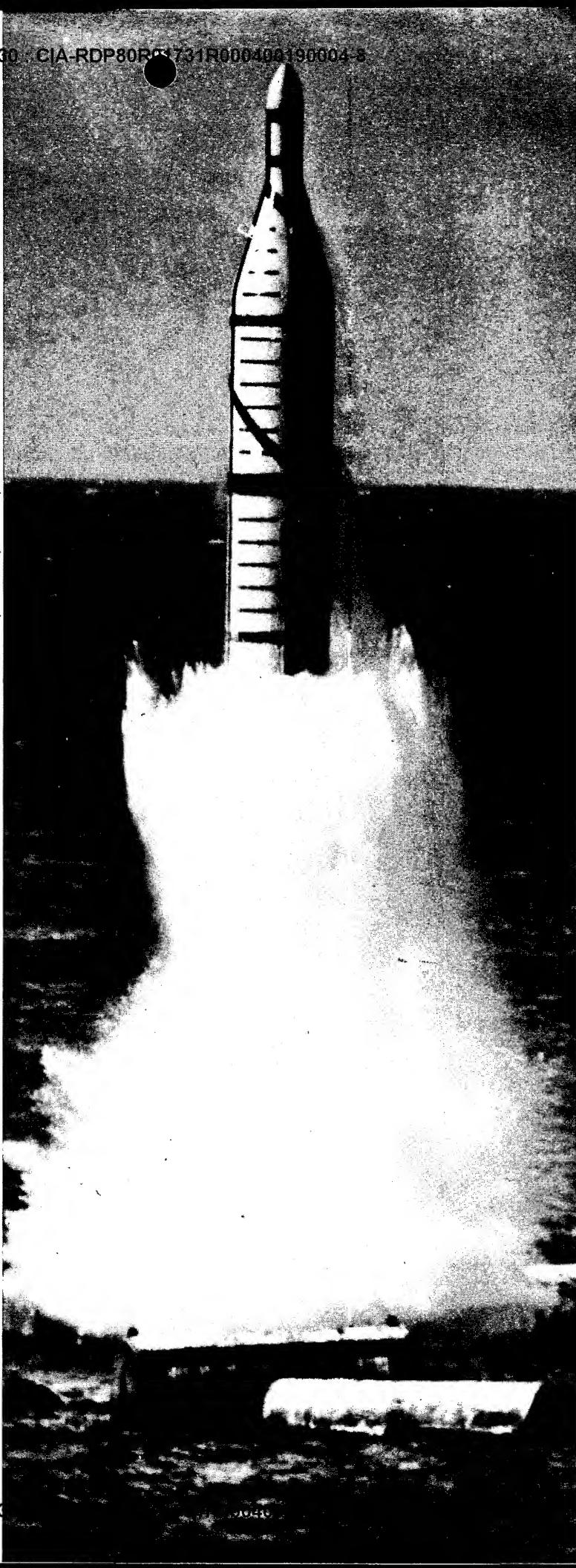
*with the program."*

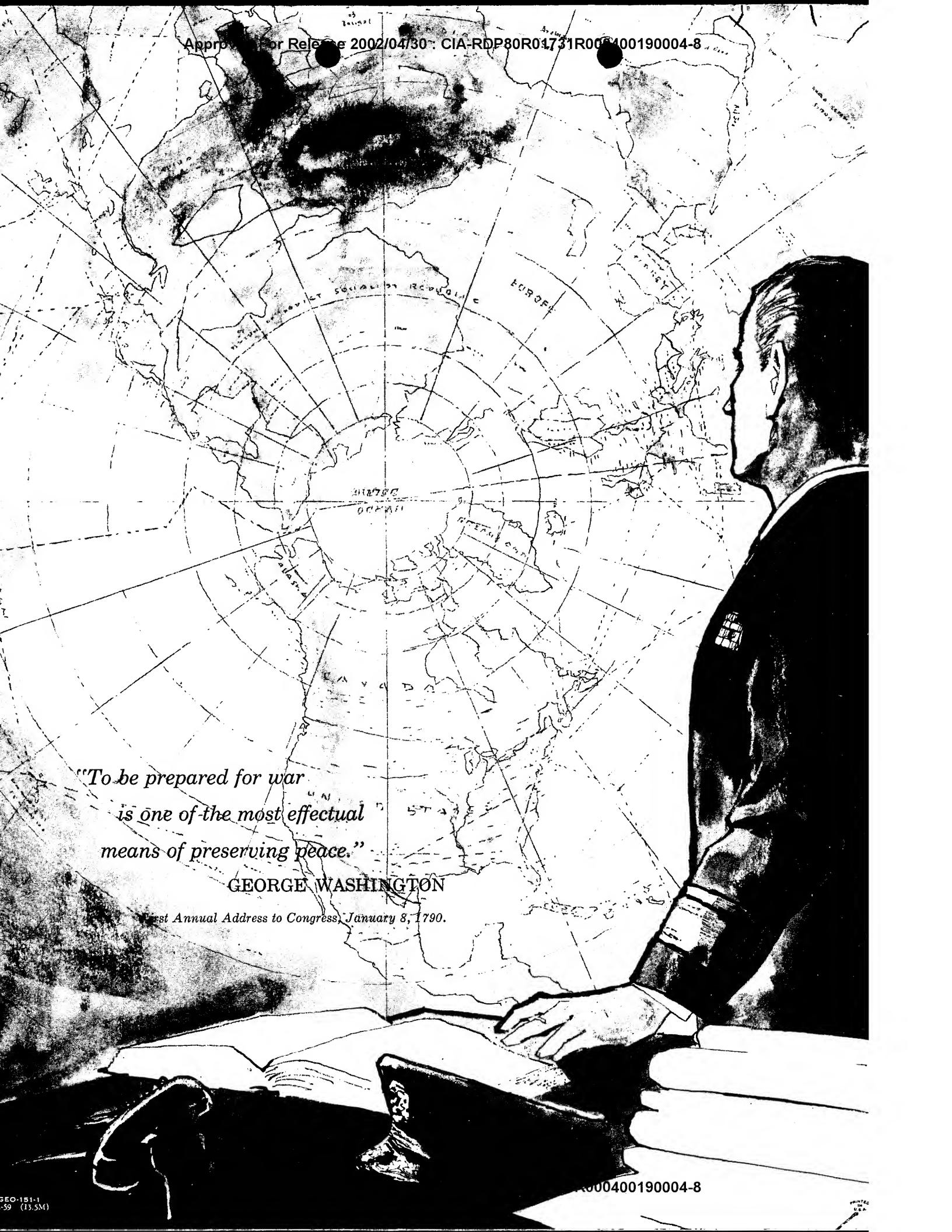
tion, each Monday morning the professional and management staff and contractor representatives get together in the Management Center to review performance facts within the context of the total FBM program. Division Directors and Branch Heads make oral presentations using visual-aid reproductions of the plans, plan structures, and evaluation charts. These presentations give summary evaluation of progress in relation to approved plans and bring to the attention of the Director the problems of immediate concern, such as, failures to meet schedules and proposed remedial action, impending material shortages and causes, and labor situations. In the course of these reviews, the Director may request special reports on particular problems for further study or may make an on-the-spot decision. The Director's decisions and observations are then published and distributed to the Division Heads for action.

#### **The Director's Role**

It is of importance to understand that the Director of Special Projects, in his unprecedented role, was given broad discretion to specify and co-ordinate requirements, areas of work, and funds essential to the effective development of a complex FBM system. Throughout the entire program, the cooperation of all Naval activities has been fully consistent with the demands of the high priority assigned to this program. The planning system, including contractor reporting and application of the "line-of-balance" production analysis technique, has been endorsed by both government and contractor personnel as means for "ferreting out" potential problem areas or "bottlenecks." In conclusion, *any management system*, to be effective, regardless of its quality and efficiency, *must have unqualified support from all persons associated with the program*. The FBM program, by its very nature and position in the national defense, has undoubtedly evoked an unusual loyalty and dedication from all concerned.

**Difficulties inherent in underwater launching of POLARIS are being attacked through extensive prototype testing. Similar work is carried on simultaneously in the areas of guidance, missile handling, fire control, submarine technology and personnel procurement and training. Ultimate objective is a true "package deal" when FBM becomes operational.**





*"To be prepared for war  
is one of the most effectual  
means of preserving peace."*

GEORGE WASHINGTON

*First Annual Address to Congress, January 8, 1790.*